

WOAH Collaborative Centre Reports Activities 2023

Activities in 2023

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Centre Information

Title of WOA Collaborating Centre	Veterinary Public Health and Food Safety Centre for Asia Pacific
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Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):	Asst.Prof.Dr.Warangkhana Chaisowwong, Director of Veterinary Public Health and Food Safety Centre for Asia Pacific, Chiang Mai, Thailand , Dr. Wanida Chaengprachak, Director of Division of International Livestock Cooperation, Department of Livestock Development, Bangkok
Name of the writer:	Ms.Thanaporn Kunkong

TOR1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOA

Category	Title of activity	Scope
Disease control (true)	Training of the trainers Early detection and rapid response to stop epizootic and pandemic using community owned surveillance system: Participatory One Health Disease Detection application (PODD) Under the Global Health Project in Laos	The workshop shows an overview of PODD application, a digital tool for reporting and tracking animal diseases from the local, district and provincial level in Lao PDR. The objective of this project to strengthen the development of international cooperation to support the community-based animal health surveillance systems, Promote the pilot project of implementing the customized PODD digital system in Lao PDR to support community-based animal health surveillance in the country. and support a disease surveillance system, awareness and support epidemic control in Lao PDR as a role model and learning resource for cooperation from communities and sectors involved in disease surveillance.
		1. The project aims to encourage the community to solve the problem of homeless dogs by reducing the overpopulation of street and temple dogs through sterilization, Improving the health status of homeless dogs through vaccinations and coordinating medical care in cooperation with our veterinary team through community participation. 2. This

<p>Epidemiology, surveillance, risk assessment, (true)</p>	<p>1. Sustainable and Participatory Community-Based Management of Free Roaming Dog Problems in Public Locations(Ma-CM) 2.Temporal trend and high-risk areas of rabies occurrences in animals in Nepal from 2005 to 2018 Swochhal Prakash Shrestha 3.Lumpy Skin Disease Outbreaks in Africa, Europe, and Asia (2005-2022): Multiple Change Point Analysis and Time Series Forecast Ayesha Anwar</p>	<p>project aims to determine the high-risk areas for animal rabies in Nepal. Rabies is an important zoonosis in both the public and animal health domains. The occurrences of animal rabies have been continuously reported in Nepal. For the effective control and management of animal rabies, a better understanding of rabies epidemiology is essential. Therefore, the objectives of this study were to determine the spatial distribution and to describe the epidemiological characteristics of animal rabies occurrences in Nepal. Official reports of rabies occurrences from 2005 to 2018 were analyzed using the Global Moran's Index and Local Moran's Index. The study revealed an increasing trend in the later years of the study period after 2014 with occurrences clustered around the southern region of the country. For the overall period, the high—high clustering areas were mostly found in Dailekh and Kailali. In addition, different areas were visualized as high-risk areas in various years. This study identified the high-risk areas of rabies; thus, authorities and stakeholders can utilize this finding in enhancing the rabies control program in the country. 3. This study aims to determine the trends and change points in the LSD outbreaks reports from Africa, Europe and Asia and also forecast the LSD outbreaks in respective regions. LSD is an important transboundary disease affecting the cattle industry worldwide. The objectives of this study were to determine trends and significant change points, and to forecast the number of LSD outbreak reports in Africa, Europe, and Asia. LSD outbreak report data (January 2005 to January 2022) from the World Organization for Animal Health were analyzed. We determined statistically significant change points in the data using binary segmentation, and forecast the number of LSD reports using auto-regressive moving average (ARIMA) and neural network auto-regressive (NNAR) models. Four significant change points were identified for each continent. The year between the third and fourth change points (2016-2019) in the African data was the period with the highest mean of number of LSD reports. All change points of LSD outbreaks in Europe corresponded with massive outbreaks during 2015-2017. Asia had the highest number of LSD reports in 2019 after the third detected change point in 2018. For the next three years (2022-2024), both ARIMA and NNAR forecast a rise in the number of LSD reports in Africa and a steady number in Europe. However, ARIMA predicts a stable number of outbreaks in Asia, whereas NNAR predicts an increase in 2023-2024. This study provides information that contributes to a better understanding of the epidemiology of LSD.</p>
<p>Training, capacity building (true)</p>	<p>1.Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability Date 7 – 25 August 2023 2.Leadership in Veterinary Service Workshop Date 4 -22 December 2023</p>	<p>1. The aim of this course is to share knowledge on strengthening food security and nutrition so as to cope with an increase in global demand for food and to promote sustainable agriculture which will contribute to hunger eradication ex. access to safe and adequate food for good health and well-being. This program also designed to build an understanding of the production chain of animal origin food and its safety control in the food security constraint. 2.The workshop acknowledges the information about role and responsibility of veterinary service at national, regional and</p>

		international level, structure and work system of veterinary public health organizations at national, regional and international level, public policy cycle and public policy in veterinary public health, national and international organization in veterinary public health, leadership skills for veterinary service.
Food security (true)	<p>1. Food safety and quality in university and surrounding areas using integrated multidisciplinary approach (Food Safety CMU)</p> <p>2. Project for Agriculture and Livestock Raw Materials Management Center (HUB CMU)</p> <p>3. Project for Food Safety in Street Food, Chiang Mai University</p>	<p>1. The Food Safety project is a project that promotes the Sustainable Development Goals (SDGs), also known as the Global Goals, to end hunger and promote good health and well-being. The project is developed in the university and aimed to promote safe food for students and university personnel. This project aims to 1) create food safety in Chiang Mai University (CMU) 2) promote the consumption of safe food in CMU and 3) increase awareness and participation in food safety for students, staff, and safe food distribution of restaurant operators in CMU. 2. This project aims to establish the centre for arrangement of agriculture and livestock products to create the food safety system in Chiang Mai University (CMU) 3. This project aims to develop and improve the street food surrounding the university areas to engage the food safety for students, staffs, tourism, and local people.</p>
Sustainable livestock (true)	<p>The 13th GASL Multi-Stakeholder Partnership (MSP) Meeting and the Regional Conference on Sustainable Livestock Transformation Date 30 October – 3 November 2023</p>	<p>The 13th Global Agenda for Sustainable Livestock (GASL) Multi-Stakeholder Partnership Meeting and the Regional Conference on Sustainable Livestock Transformation has conducted under the collaboration with Food and Agriculture Organization of the United Nations (FAO), the Department of Livestock Development of Thailand (DLD) and Chiang Mai University. The conference mission is to empower the sustainability and resilience of livestock systems by providing crucial insights and knowledge by focusing on livestock systems around the world and specifically on South-East Asia systems, the meeting will offer also a general overview of GASL, its achievements and will briefly outline the present 2022 – 2024 Action Plan and its alignment with the GASL Theory of Change. This event bringing together 275 participants from 55 countries worldwide, this event provided opportunities to address global and regional livestock system dynamics, focusing on fast and slow-moving drivers of change across geopolitical, socio-economic, health and diseases, environmental, and innovation and knowledge aspects. It provided a platform to share knowledge and envision innovative solutions under GASL's livestock sustainability domains: food and nutrition security, livelihoods and economic growth, animal health and welfare, and climate and resource use.</p>
One Health (true)	<p>Global Health Challenge Workshop Date 13 November – 1 December 2023</p>	<p>The workshop provides the significant global health problems, systems thinking and system approach, One Health concept, impact of environmental health on human and animal health, essential skills for One Health team.</p>

TOR3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable area
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3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAHP?

No

4. Did your Collaborating Centre maintain a network with other WOAHP Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAHP CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Ecole interne de VetAgro Sup Ecole nationale des Services vétérinaires	Marcy-l'Etoile, FRANCE	Europe	Development of E-learning Modules on Leadership in Veterinary Services
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale"	Teramo, ITALY	Europe	Development of E-learning Modules on Leadership in Veterinary Services
Centre National de Veille Zoosanitaire (CNVZ)	Tunis, TUNISIE	Africa	Development of E-learning Modules on Leadership in Veterinary Services
Center of Animal Health and Food Safety (CAHFS)	Minnesota, USA	Americas	Review Team for the Terms of Reference (ToRs) of WOAHP Competency Package n°10 on Partnership.

TOR4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAHP Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAHP CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
WOAHP Sub-Regional Representation for South-East Asia	Thailand	Asia and Pasific	Workshop on Leadership in Veterinary Service

TOR6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAHP?

No

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

No

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAAH, to personnel from WOAAH Members?

Yes

a) Technical visit : 0

b) Seminars : 1

c) Hands-on training courses: 3

d) Internships (>1 month) : 0

TYPE OF TECHNICAL TRAINING PROVIDED (A, B, C OR D)	CONTENT	COUNTRY OF ORIGIN OF THE EXPERT(S) PROVIDED WITH TRAINING	NO. PARTICIPANTS FROM THE CORRESPONDING COUNTRY
C	Food Safety and Security from Animal Origin: Strengthening the Network for Sustainability	Bangladesh, Bhutan, Egypt, Kenya, Pakistan, Sri Lanka,	31
B	The 13th GASL Multi-Stakeholder Partnership (MSP) Meeting and the Regional Conference on Sustainable Livestock Transformation	Argentina, Australia, Belgium, Brazil, Burkina Faso, Cambodia, Cameroon, Canada, China, Colombia, Costa Rica, Cuba, Ethiopia, France, Georgia, Germany, Hungary, India, Indonesia, Italy, Iran, Ireland, Kenya, Kyrgyzstan, Lao PDR, Malaysia, Mexico, Moldova, Mongolia, Morocco, Nepal, New Zealand, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Senegal, South Africa, Spain, Sweden, Switzerland, Tanzania, Thailand, Turkey, Uganda, Ukraine, United State, Uruguay, Vietnam, Zambia,	280
C	Global Health Challenge Workshop	Cambodia, Indonesia, Pakistan, Thailand	8
C	Leadership in Veterinary Service Workshop	Pakistan, Thailand	2

TOR8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAAH?

No

TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAAH that may be useful to Members of WOAAH

a) Articles published in peer-reviewed journals:

8

- Anwar A, Na-Lampang K, Preyavichyapuddee N, Punyapornwithaya V. Lumpy Skin Disease Outbreaks in Africa, Europe, and Asia (2005-2022): Multiple Change Point Analysis and Time Series Forecast. *Viruses*. 2022 Oct 7;14(10):2203. doi: 10.3390/v14102203. PMID: 36298758; PMCID: PMC9611638.
- Shrestha, S. P., Chaisowwong, W. ., Arjkumpa, O., Upadhyaya, M., Koirala, P., Maharjan, M. ., Shrestha, S. P. ., & Punyapornwithaya, V. (2023). Temporal trend and high-risk areas of rabies occurrences in animals in Nepal from 2005 to 2018: <https://doi.org/10.12982/VIS.2023.029>. *Veterinary Integrative Sciences*, 21(2), 411–427. Retrieved from <https://he02.tci-thaijo.org/index.php/vis/article/view/260880>
- Punyapornwithaya V, Arjkumpa O, Buamithup N, Kuatako N, Klaharn K, Sansamur C, Jampachaisri K. Forecasting of daily new lumpy skin disease cases in Thailand at different stages of the epidemic using fuzzy logic time series, NNAR, and ARIMA methods. *Prev Vet Med*. 2023 Aug;217:105964. doi: 10.1016/j.prevetmed.2023.105964. Epub 2023 Jun 16. PMID: 37393704.
- Punyapornwithaya V, Thanapongtharm W, Jainonthee C, Chinsorn P, Sagarasaeranee O, Salvador R and Arjkumpa O (2023) Time series analysis and forecasting of the number of canine rabies confirmed cases in Thailand based on national-level surveillance data. *Front. Vet. Sci*. 10:1294049. doi: 10.3389/fvets.2023.1294049
- Punyapornwithaya V, Salvador R, Modethed W, Arjkumpa O, Jarassaeng C, Limon G, Gubbins S. Estimating the Transmission Kernel for Lumpy Skin Disease Virus from Data on Outbreaks in Thailand in 2021. *Viruses*. 2023; 15(11):2196. <https://doi.org/10.3390/v15112196>
- Moonchai S, Himakalasa A, Rojsiraphisal T, Arjkumpa O, Panyasomboonying P, Kuatako N, Buamithup N, Punyapornwithaya V, Modelling epidemic growth models for lumpy skin disease cases in Thailand using nationwide outbreak data, 2021–2022, *Infectious Disease Modelling*, Volume 8, Issue 1, 2023, Pages 282-293, ISSN 2468-0427,

<https://doi.org/10.1016/j.idm.2023.02.004>.

7. Dung Minh, V. ., Meeyam, T. ., Unger, F. ., Gözl, G. ., Thi Ngoc, P. ., Thi Huong Giang, T. ., Alter, T. ., & Pichpol, D. . (2023). Prevalence of *Campylobacter* spp. on retail fresh chicken carcasses in Hanoi, Vietnam: <https://doi.org/10.12982/VIS.2023.017>. *Veterinary Integrative Sciences*, 21(1), 221–227. Retrieved from <https://he02.tci-thaijo.org/index.php/vis/article/view/261306>

8. Sakulthai, A., Sawangrat, C., Pichpol, D. et al. Improving the efficiency of crossbred Pradu Hang Dam chicken production for meat consumption using cold plasma technology on eggs. *Sci Rep* 13, 2836 (2023). <https://doi.org/10.1038/s41598-023-29471-6>

b) International conferences:

c) National conferences:

d) Other (Provide website address or link to appropriate information):

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

12. Additional comments regarding your report: