

OIE Collaborating Centres Reports Activities

Activities in 2021

This report has been submitted : 2022-01-28 17:09:59

Title of collaborating centre:	Epidemiology Aquatic Animal Diseases (Europe)
Address of Collaborating Centre:	Norwegian Veterinary Institute Elizabeth Stephansens vei 1, 1433 Ås, Norway
Tel.:	+47 91 61 85 87
Fax:	
E-mail address:	saraya.tavornpanich@vetinst.no
Website:	https://www.vetinst.no/en
Name of Director of Institute (Responsible Official):	Dr. Torill Moseng
Name (including Title and Position) of Head of the Collaborating Centre (formally OIE Contact Point):	Dr. Saraya Tavornpanich
Name of writer:	Dr. Saraya Tavornpanich

ToR: To provide services to the OIE, in particular within the region, in the designated specialty, in support of the implementation of OIE policies and, where required, seek for collaboration with OIE Reference Laboratories

ToR: To identify and maintain existing expertise, in particular within its region

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

Epidemiology, surveillance, risk assessment, modelling	
Title of activity	Scope
Fish for Development program - Ghana, Colombia, Sub-Saharan Africa.	Continuation of the project for building capacity and supporting knowledge in health management and aquatic epidemiology for the Ministry of Fisheries and Aquaculture in Ghana and Sub-Saharan Africa focusing on Tilapia production, in Colombia, focusing on epidemiology and health management of fresh-water fish and shrimp productions. 13 research topics on biosecurity, surveillance, and diseases impacting health of Tilapia and their production have been identified and be carried out by master students at the university of Ghana and the university of Nairobi during 2022-2023.
Prevalence and potential risk factors for EHP infection in farmed <i>Penaeus monodon</i> in Indonesia.	Completion of data analyses and final report on a study for risk factors of EHP in <i>Penaeus monodon</i> and design a risk-based surveillance strategy for EHP in Indonesia.
Training, capacity building	
Title of activity	Scope
Physical workshop on use of Bayesian Latent Class Analysis for animal disease diagnoses.	Providing 2-day training on "Introduction to Bayesian Latent Class Analysis and application to diagnoses of aquatic animal diseases" to 20 participants from Norway, Denmark, Germany, Latvia, Estonia, and Portugal.
Capacity Building in Aquatic and Environmental Health in West Africa (AquaHem) project.	The project (AquaHem) aims to train staff and postgraduate students at MSc and PhD education programmes in fish and environmental health. The project will lead to increase in capacity and competence of staff and students in Ghana and Nigeria. Three Universities in Ghana and one from Nigeria are participating in the project alongside the University of Life Sciences (NMBU) and the Norwegian Veterinary Institute.
Capacity Building in Aquatic Animal Health for Sub-Saharan Africa countries within AquaHealthAfrica (AHA) project.	Providing trainings in disease diagnoses, surveillance, biosecurity, outbreak investigation, and data analyses.

<p>Development and Implementation of the Progressive Management Pathway for Improving Aquaculture Biosecurity (PMP/AB).</p>	<p>Providing technical support in the development and advocacy for the Progressive Management Pathway to improving Aquaculture Biosecurity (PMP/AB).</p> <p>The PMP/AB is a new initiative that was developed by the Food and Agriculture Organization of the United Nations (FAO) and partners after a consensus was reached during two multi-stakeholder meetings held at the World Bank headquarters in Washington D.C. (April 2018) and the World Organisation for Animal Health (OIE) headquarters in Paris (January 2019) , as well as an initial Technical Working Group meeting held at FAO headquarters (March 2019). The PMP/AB consists of four stages that will progressively enhance aquaculture biosecurity capacity by building on existing frameworks, capacity and appropriate tools using risk-based approaches and forming strong public-private partnerships.</p> <p>The TWG Secretariat is a joint partnership between FAO and the Norwegian Veterinary Institute (NVI).</p>
Aquatic animal diseases	
Title of activity	Scope
Ad hoc Group on Infection with tilapia lake virus.	Expert consultants at the disposal of the OIE Ad hoc group member.

ToR : To propose or develop methods and procedures that facilitate harmonisation of international standards and guidelines applicable to the designated speciality

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the surveillance and control of animal diseases, food safety or animal welfare

Proposal title	Scope/Content	Applicable area
Operational welfare indicator	Development and evaluation of a method for routine welfare monitoring of salmon in Norwegian food fish farms	<input type="checkbox"/> Surveillance and control of animal diseases <input type="checkbox"/> Food safety <input checked="" type="checkbox"/> Animal welfare
eDNA	Development and evaluation of method for PD surveillance	<input checked="" type="checkbox"/> Surveillance and control of animal diseases <input type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare
Web-based tool for aquaculture biosecurity	Development and evaluation of method for quantification of biosecurity measures	<input checked="" type="checkbox"/> Surveillance and control of animal diseases <input type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare
Traffic light system in salmon production	Implementation of epidemiological model for evaluation sea lice infestation on wild salmon smolt as part of traffic light system	<input checked="" type="checkbox"/> Surveillance and control of animal diseases <input type="checkbox"/> Food safety <input type="checkbox"/> Animal welfare

ToR: To establish and maintain a network with other OIE Collaborating Centres designated for the same specialty, and should the need arise, with Collaborating Centres in other disciplines

ToR: To carry out and/or coordinate scientific and technical studies in collaboration with other centres, laboratories or organisations

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

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
OIE Collaborating Centre for Economics of Animal Health.	UK	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	As part of the OIE Collaborating Centre Consortium for Economics of Animal Health, focusing on aquaculture.
OIE Reference Laboratory for Viral encephalopathy and retinopathy	Italy	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	<p>As external reviewer of the OIE project "STRENGTHENING CAPACITY ON AQUATIC ANIMAL HEALTH AND EPIDEMIOLOGICAL SURVEILLANCE" with Scientific Coordinator Dr. Amedeo Manfrin and Project Manager Dr. Nicola</p> <p>ERAAAD-Europe will support the project specifically with lectures on aquatic epidemiology, participation in training activities regarding the GIS applications in marine aquaculture, and the editing of white papers dedicated to the use of GIS technologies in the aquatic domain.</p>

OIE Collaborating Centre for Epidemiology and Training on Emerging Avian Diseases	Italy	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	<p>As external reviewer of the OIE project "STRENGTHENING CAPACITY ON AQUATIC ANIMAL HEALTH AND EPIDEMIOLOGICAL SURVEILLANCE" with Scientific Coordinator Dr. Amedeo Manfrin and Project Manager Dr. Nicola</p> <p>ERAAAD-Europe will support the project specifically with lectures on aquatic epidemiology, participation in training activities regarding the GIS applications in marine aquaculture, and the editing of white papers dedicated to the use of GIS technologies in the aquatic domain.</p>
Network of Aquaculture Centres in Asia-Pacific (NACA)	Thailand	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East	<p>As co-opted member and presented at the 20th annual meeting of the Asia</p> <p>Regional Advisory Group on Aquatic Animal Health.</p>
WorldFish	Malaysia	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East	<p>Collaboration in a Capacity Building project AquaHealthAfrica (AHA) funded by NORAD for 2021-2024.</p>

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

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
---	----------	-----------------------------	---------

CA18208 COST (European Cooperation in Science and Technology).	EU	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	Novel tools for test evaluation and disease prevalence estimation to coordinate and promote the implementation of Bayesian Latent Class Models (BLCMs) through networking and knowledge transfer: 2019-2013.
--	----	---	--

ToR: To place expert consultants at the disposal of the OIE.

5. Did your Collaborating Centre place expert consultants at the disposal of the OIE?

Yes

Name of expert	Kind of consultancy	Subject
Dr. Saraya Tavornpanich	Technical advice	Expert in epidemiology. Head of the OIE Collaborating Centre for Epidemiology and Risk Assessment of Aquatic Animal Diseases (Europe).
Dr. Mona Dverdal Jansen	Technical advice	OIE Expert on epidemiology of Tilapia Lake Virus (TiLV), currently in OIE ad hoc Group on Tilapia lake virus (TiLV).

ToR: To provide, within the designated specialty, scientific and technical training to personnel from OIE Member Countries

6. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by the OIE, to personnel from OIE Member Countries?

Yes

- a) Technical visits: 0
b) Seminars: 4
c) Hands-on training courses: 1
d) Internships (>1 month): 1

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	Physical workshop: 2-day training on "Introduction to Bayesian Latent Class Analysis and application to diagnoses of aquatic animal diseases" to 20 participants from Norway, Denmark, Germany, Latvia, Estonia, and Portugal.	Norway, Greece	25
b	Virtual Course: Introduction to Aquatic Epidemiology. 8,15, and 20 July 2021.	Norway, Vietnam	40

b	Virtual Advanced Course on Aquaculture Epidemiological Surveillance organized by CIHEAM Zaragoza and the EU H2020 funded project MedAID. Participants were from national administrations, aquaculture and biotechnology sectors, research and university from 20 countries: Chile, Croatia, Ecuador, Egypt, Greece, Italy, Macedonia, Malaysia, Morocco, Norway, Peru, Portugal, Serbia Montenegro, Spain, Sri Lanka, Tunisia, Turkey, Ukraine, United Kingdom, and USA.	Norway, UK, Spain, France	110
b	Surveillance data analysis virtual workshop. 19-21 May 2021.	Norway, Indonesia	20
b	Aquaculture Development Training Course at Fish for Africa Innovation Hub - WorldFish - Abbassa, EGYPT. 26 June -1 July 1st 2021. Virtual course: Providing 2-days training on disease diagnostic, surveillance, and biosecurity of aquatic animal diseases to	Egypt, Norway	20
d	6-months internship for a master student (Jacob Zornu)	Norway	1

ToR: To organise and participate in scientific meetings and other activities on behalf of the OIE

7. Did your Collaborating Centre organise or participate in the organisation of scientific meetings on behalf of the OIE?

Yes

National/International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	Regional virtual seminar of OIE aquatic animal focal points - Europe	OIE	12/21	Virtual	58
National	Aquaculture seminar- Research on tilapia health, with focus on TiLV	Royal Norwegian Embassy in Cairo, Egypt	11/21	Virtual	30
International	20th Meeting of Asia Regional Advisory Group on Aquatic Animal Health (AGM20)	Network of Aquaculture Centres in Asia-Pacific (NACA)	11/21	Virtual	30

International	Fish-Vet Dialogue for exploring collaboration on managing health of aquatic organisms, providing a platform to inform of respective mandates, share experiences and identify areas for collaboration concerning aquaculture biosecurity, health management of aquatic organisms and/or trade-related matters), and sharing challenges faced due to COVID-19 in terms of trade of aquatic organisms and their products) and biosecurity.	FAO	06/21	Virtual	129
---------------	---	-----	-------	---------	-----

ToR: To collect, process, analyse, publish and disseminate data and information relevant to the designated specialty

8. Publication and dissemination of any information within the remit of the mandate given by the OIE that may be useful to Member Countries of the OIE

a) Articles published in peer-reviewed journals: 12

Bjørn Spilsberg, Hanne K. Nilsen, Saraya Tavornpanich, Snorre Gulla, Mona Dverdal Jansen, Karin Lagesen, Duncan J. Colquhoun, Anne-Berit Olsen. (January 2022) Tenacibaculosis in Norwegian Atlantic salmon (*Salmo salar*) cage-farmed in cold sea water is primarily associated with *Tenacibaculum finnmarkense* genomovar *finnmarkense*. *Journal of fish diseases*. <https://doi.org/10.1111/jfd.13577>.

Weli SC, Tartor H, Spilsberg B, Dale OB, Lillehaug A (2021) Short communication: Evaluation of charged membrane filters and buffers for concentration and recovery of infectious salmon anaemia virus in seawater. *PLoS ONE* 16(6): e0253297. <https://doi.org/10.1371/journal.pone.0253297>

Weli SC, Bernhardt L-V, Qviller L, Myrmel M, Lillehaug A. Development and evaluation of a method for concentration and detection of salmonid alphavirus from seawater. *Journal of Virological Methods*. 2021;287:113990. [pmid:33035567](https://pubmed.ncbi.nlm.nih.gov/33035567/)

Bernhardt L-V, Myrmel M, Lillehaug A, Qviller L, Weli SC. Concentration and detection of salmonid alphavirus in seawater during a post-smolt salmon (*Salmo salar*) cohabitant challenge. *Diseases of Aquatic Organisms*. 2021;144:61-73. [pmid:33764314](https://pubmed.ncbi.nlm.nih.gov/33764314/)

Bondad-Reantaso, M.G., Fejzic, N., MacKinnon, B., Huchzermeyer, D., Seric-Haracic, S., Mardones, F.O., Mohan, C.V., Taylor, N., Jansen, M.D., Tavornpanich, S., Hao, B., Huang, J., Leaño, E.M., Li, Q., Liang, Y. and Dall'occo, A. (2021) A 12-point checklist for surveillance of diseases of aquatic organisms: a novel approach to assist multidisciplinary teams in developing countries. *Reviews in Aquaculture*, 13: 1469-1487. <https://doi.org/10.1111/raq.12530>

Aldrin, M., Huseby, R.B., Bang Jensen, B., Jansen, M.D. (2021) Evaluating effects of different control strategies for Infectious Salmon Anaemia (ISA) in marine salmonid farming by scenario simulation using a disease transmission model. *Preventive Veterinary Medicine*, 191, 105360, <https://doi.org/10.1016/j.prevetmed.2021.105360>.

Alarcón, M, Moldal, T., Jansen, M.D., Aamelfot, M., Sindre, H., Lyngstad, T.M., Falk, K. (2021) Infectious salmon anaemia virus detected by RT-qPCR in Norwegian farmed rainbow trout, *Oncorhynchus mykiss* (Walbaum, 1792).

Journal of Fish Diseases, 44:479-481. <https://doi.org/10.1111/jfd.13315>

Christiansen, D.H., Petersen, P.E., Dahl, M.M., Vest, N., Aamelfot, M., Kristoffersen, A.B., Jansen, M.D., Gallagher, M.D., Matejusova, I., Jónsson, G., Rodriguez, E., Fosse, J.H., Falk, K. (2021) No Evidence of the Vertical Transmission of Non-Virulent Infectious Salmon Anaemia Virus (ISAV-HPR0) in Farmed Atlantic Salmon. *Viruses*, 13, 2428. <https://doi.org/10.3390/v13122428>

Dean, K. R., Oliveira, V. H. S., Wolff, C., Moldal, T., & Jansen, M. D.D. (2022). Description of ISAV-HPRΔ-positive salmon farms in Norway in 2020. *Journal of Fish Diseases*, 45, 225-229. <https://doi.org/10.1111/jfd.13538>

Gåsnes, Siri Kristine; Silva de Oliveira, Victor Henrique; Gismervik, Kristine; Ahimbisibwe, Ashley; Tørud, Brit; Jensen, Britt Bang. Mortality patterns during the freshwater production phase of salmonids in Norway. *Journal of Fish Diseases* 2021 ;Volum 44.(12) s. 2083-2096

Medaas, Christian; Lien, Marianne Elisabeth; Gismervik, Kristine; Kristiansen, Tore S.; Osmundsen, Tonje; Størkersen, Kristine Vedal; Tørud, Brit; Stien, Lars Helge. Minding the Gaps in Fish Welfare: The Untapped Potential of Fish Farm Workers. *Journal of Agricultural and Environmental Ethics* 2021 ;Volum 34.(5) s. 1-22

Størkersen, Kristine Vedal; Osmundsen, Tonje Cecilie; Stien, Lars Helge; Medaas, Christian; Lien, Marianne Elisabeth; Tørud, Brit; Kristiansen, Tore S; Gismervik, Kristine. Fish protection during fish production. Organizational conditions for fish welfare. *Marine Policy* 2021 ;Volum 129.

b) International conferences: 1

Tavornpanich, Saraya. A systematic approach for quantification of biosecurity measures. European Association of Fish Pathologists (EAFP): Workshop on How outputs from EU projects can upgrade health management in Mediterranean aquaculture. 20-23 September 2021.

c) National conferences: 1

Brun, Edgar. Fra gruppe til individbasert oppdrett - neste steg for å øke produksjon i sjø? Norway's leading innovation-oriented salmon conference. 30 November - 1 December 2021.

d) Other

(Provide website address or link to appropriate information): 0

9. Additional comments regarding your report: