World Organisation for Animal Health

- -

WOAH Collaborative Centre Reports Activities 2024

This report has been submitted: 20 janvier 2025 15:11

CENTRE INFORMATION

***Title of WOAH Collaborating Centre**	Epidemiology Aquatic Animal Diseases (Europe)
***Address of WOAH Collaborating Centre**	Norwegian Veterinary Institute
***Tel:**	+4723216000
***E-mail address:**	vi1296@vetinst.no
Website:	https://www.vetinst.no/en
***Name Director of Institute (Responsible Official):**	Dr. Gun Peggy Strømstad Knudsen
***Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):**	Dr. Saraya Tavornpanich, Senior researcher
***Name of the writer:**	Dr. Maria Fernanda Serrano De La Cruz

TOR 1 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 WOAH

Category	Title of activity	Scope
		1.i) Design of graphic sampling guidelines

Disease control (true)	1) Fish for Development Project - Colombia	for trout as supplementary training materials to enhance understanding and standardize sampling procedures for accurate aquatic animal disease diagnosis. These materials were shared with ICA staff via email and WhatsApp and have been well received by field personnel due to their ease of access on mobile devices. 1.ii) A research study "Characterization of Knowledge, Attitudes, and Biosecurity Practices among Rainbow Trout (Oncorhynchus mykiss) with producers in La Cocha Lake, Nariño" is ongoing. This bachelor's thesis is supervised by the university of Nariño and NVI. The study will provide an overview of the status of biosecurity measures implemented by farms in La Cocha Lake. The data will also serve as the basis for further analysis, including a risk factor assessment and the development of a tool for the biosecurity evaluation in the farm level.
Epidemiology, surveillance, risk assessment, (true)	1) Increased Sustainability in the Aquaculture Sector in SSA, through Improved Aquatic Animal Health Management (AHA) 2) Fish for Development Project - Colombia	1) Conducted surveys on farm characteristics, management practices, and biosecurity measures in 99 Tilapia/Catfish farms in Ghana and 197 farms in Kenya, and performed epidemiological study to identify risk factors associated with unusual mortality of these surveyed farms (funded by Norwegian Government) 2.i) Farmer's Workshop Colombia, organized by ICA (The Colombian Veterinary Authority) and the Norwegian Veterinary Institute, to increase the mandatory notification rates. The workshop strengthened the relationship, trust, and communication between producers and ICA, and improved awareness of the importance of reporting unusual mortalities or alterations in production parameters to ICA. 2.ii) Provide assistance and advice for the design and analyse data from the active surveillance study conducted by ICA in La Cocha Lake. This study aims to determine the status of the population regarding Infectious Pancreatic Necrosis- IPN and Weissella Tructae.

Training, capacity building (true)	1) Fish for Development program – Ghana 2) Fish for Development program - Colombia	1) Providing training in outbreak investigation in the Ghanaian aquaculture industry, and develop routine notifications/alert and response procedures as part of the overall aim of building capacity and knowledge in health management and epidemiology of aquatic animal diseases for Fishery Commission/Competent Authorities in Ghana. (funded by Norwegian Government) 2) Providing training, advice and reference material to increase the capacity of the Colombian veterinary Authority- The Colombian Agricultural Institute-ICA in the diagnosis, prevention, control, and surveillance of aquatic animal diseases. (funded by Norwegian Government)

TOR 3: HARMONISATION OF STANDARDS

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

Proposal title	Scope/Content	Applicable Area
Quantification of aquaculture biosecurity measures	Further development and implementation of tools for quantification of aquaculture biosecurity measures	Training and Education Health Management
Contingency plan Aquatic Animal Diseases for Colombia	Development of the Contingency Plan for Aquatic Animal Diseases, Outbreaks for Colombia, following the Aquatic Code chapters related with biosecurity, emergency preparation, epidemiological surveillance, outbreak investigation, risk assessment and welfare.	Training and Education Health Management Animal Production

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

Yes

Research need 1

Please type the Research need: • Guidelines for the preparation and application of simulation exercises for aquatic animal

disease outbreaks.

Relevance for WOAH Disease Control, Capacity Building,

Relevance for the Code or Manual Code,

Field Epidemiology and Surveillance,

Animal Category Aquatic,

Disease:

Kind of disease (Zoonosis, Transboundary diseases)

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer:

Notes:

Answer:

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

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Aquatic Collaborating Centre Network	Global	África América Asia y el Pacífico Europa Oriente Medio	Enhance the networking between WOAH aquatic CC's and between the aquatic CC's and others in the WOAH community.
WOAH Collaborating Centre for Economics of Animal Health.	UK	Europa	The Centre is part of the Consortium for WOAH CC for Economics of Animal Health, focusing on aquaculture.
Network of Aquaculture Centres in Asia-Pacific (NACA)	Thailand	Asia y el Pacífico	A member of the Centre is co-opted member and presented at the annual meeting of the Asia Regional Advisory Group on Aquatic Animal Health.
WorldFish	Malaysia	África Asia y el Pacífico	Collaboration in a Capacity Building through the AHA-project

FAO	Italy	Europa	- Collaboration with Sub-commission in aquaculture as member of the technical working group for developing PMP/AB - Co-organizing FishVet Dialogue II; One Health and biosecurity - Co-organizing seminar "To vaccinate or not to vaccinate,")
COST (European Cooperation in Science and Technology).	EU	Europa	Member of BETTER (Biosecurity Enhanced Through Training Evaluation and Raising Awareness) COST Action 20103 to reduce the risk of infectious disease introduction and spread by improving implementation of biosecurity measures in animal production systems. - Steering committee and member of BIOAQUA (Enhancing knowledge of BIOmolecular solutions for the well-being of European AQUAculture sector) COST Action 22160 exploring the potential of biomolecular solutions for the well-being of European aquaculture sector, proposing an innovative conceptual pathway for veterinary applications, tracking systems, diagnosis or biosafety.
Norges Vel	Madasgascar	África	Baseline study on pathogen status related to implementing a biosecurity programme

TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in

other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
WOAH Collaborating Centre for Epidemiology and Training on Emerging Avian Diseases.	Italy	Europe	The Centre has been involved as the external advisor of the project "Strengthening Capacity on Aquatic Animal Health and Epidemiological Surveillance (AquaStrength)" with Scientific Coordinator Dr. Amedeo Manfrin and Project Manager Dr. Nicola Ferre

TOR 6: EXPERT CONSULTANTS

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

Yes

Name of expert	Kind of consultancy	Subject
Dr. Saraya Tavornpanich	Technical advice	• Epidemiology
Dr. Edgar Brun	Technical advice	• Aquatic Epidemiology
Dr. Shimaa Elsayed Mohamed Ali	Technical advice	• Aquatic Animal Health and management
Dr. Maria Fernanda Serrano	Technical advice	• Aquatic Animal Health and outbreak management and preparation • Biosecurity
Dr. Silva De Oliveira, Victor Henrique	Technical advice	• Aquatic Epidemiology • Surveillance

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

See TOR 1 and 2

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

Yes

a) Technical visit : 6

b) Seminars : 85

c) Hands-on training courses: 39

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
A	Technical visit: 3 laboratory technicians received top-up training in histopathology techniques, including additional 3 officers offered training in aquaculture regulations and farming inspections.	Norway	6
B	The 2nd Aquatic Animal Health Workshop for Central Asia and Transcaucasian countries and Central Asia and Transcaucasian Aquatic Animal Health Network, in Uzbekistan • Main Steps in Fish Disease detection focusing on Outbreak Investigation • Challenges and opportunity in the Fish networking: WOAH CCs activities	Norway	20
B	Provided presentations at the 2nd webinar on Aquatic Animal Health for the Europe Region • Discussions about usability of Atlantic salmon mortality data and other production data from several sources for new surveillance strategies in aquaculture, such as health surveillance with early warning	Norway	39

	systems for disease detection at farms. • Managing Disease Outbreaks: Experiences and Lessons from a a Streptococcus 1A Outbreak in Tilapia		
B	Online training with SANIPES-Peru, on the 7th & 8th of May 2024 on: -Biosecurity, practical use in aquaculture -Early detection of pathogens in water (importance and methodology) -Interpretation of diagnostic tests -Aquatic Animal Welfare -Vaccines, use of antibiotics - antimicrobial resistance programs -Surveillance programs, sampling strategies	Norway	26
C	The 4th cycle training of Aquatic Animal Health Focal Points in Africa, in Tunis, Tunisia, 8 to 10 July 2024: NVI's Work in Africa – and International Collaboration	Norway	16
C	A three-day workshop in fish autopsy and sampling procedures, led by ICA with the support of NVI.	Norway	23

TOR 8: 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 WOAH?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	The 2nd webinar on Aquatic Animal Health for the Europe and Central Asia Region	WOAH	2024-12-04	Online	39

TOR 9: DATA AND INFORMATION DISSEMINATION

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

a) Articles published in peer-reviewed journals:
7
1. Banini, P.K., Anyan, K.F., Zornu, J., Ackah, M., Batsa, D.N., Issifu, K. Amankwah A., Shimaa E. A., Addo, S., Cudjoe, K. (2024). Rethinking Freshwater Cage Aquaculture: A Case in Ghana. Water, 16(21), 3054. https://doi.org/10.3390/w16213054

2. Leandro, M. G., Zornu, J., Le Breton, A., Chérif, N., Basurco, B., Furones, D., Muniesa, A., Toffan, A., Pozza Dalla M., Franzago, E., Zencic, S., Varvarigos, P., Saleh, H., Cagirgan, H., Jansen, M.D., Brun, E., Tavornpanich, S. (2025). Quantification of biosecurity measures in Mediterranean European seabass and gilthead sea bream farms. Aquaculture, 596. https://doi.org/10.1016/j.aquaculture.2024.741898

3. Dandi SO, Abarike ED, Abobi SM, Doke DA, Lyche JL, Addo S, Edziyie RE, Obiakara-Amaechi AI, Øystein E, Mutoloki S, Cudjoe KS. (2024). Knowledge, Attitudes, and Practices of Antibiotic Use among Small-, Medium-, and Large-Scale Fish Farmers of the Stratum II of the Volta Lake of Ghana. Antibiotics (Basel); 13(7):582. doi: 10.3390/antibiotics13070582. PMID: 39061263; PMCID: PMC11273686.

4. Angela N.A. Ayiku, Abigail A. Adelani, Patrick Appenteng, Mary Nkansa, Joyce M. Ngoi, Collins M. Morang'a, Francis Dzabeng, Richard Paley, Kofitsyo S. Cudjoe, David Verner-Jeffreys, Peter K. Quashie, Samuel Duodu. (2024). Molecular epidemiology and current management of Infectious Spleen and Kidney Necrosis Virus (ISKNV) infection in Ghanaian cultured tilapia, Aquaculture, Volume 581,2024, 740330. https://doi.org/10.1016/j.aquaculture.2023.740330.

5. Duodu S, Ayiku ANA, Adelani AA, Daah DA, Amoako EK, Jansen MD, Cudjoe KS. (2024) Serotype distribution, virulence and antibiotic resistance of Streptococcus agalactiae isolated from cultured tilapia Oreochromis niloticus in Lake Volta, Ghana. Dis Aquat Organ; 158:27-36. doi: 10.3354/dao03780. PMID: 38661135.

6. Stige, Leif, Qviller, Lars, Viljugrein, Hildegunn, Tavornpanich, Saraya. (2024). A salmon lice prediction model. Preventive Veterinary Medicine. 235. 106405. 10.1016/j.prevetmed.2024.106405.

7. Riuzzi, Giorgia, Sbettega, Federica, Tavornpanich, Saraya, Posen, Paulette, Contiero, Barbara, Mazzucato, Matteo, Segato, Severino, Ferre, Nicola. (2024). Eliciting expert opinion on GIS use for surveillance and disease response in the aquatic animal health domain. Frontiers in Marine Science. 11. 10.3389/fmars.2024.1429634.

b) International conferences:
1
LATIN AMERICAN & CARIBBEAN AQUACULTURE 2024 - LACQUA 2024 September 24-27
- *Investigación de brotes de enfermedad en Animales Acuáticos, experiencia del NVI y el ICA desde el Proyecto Pesca para el Desarrollo. Maria Fernanda Serrano, M.V.Msc.*

c) National conferences:
1
Ghana Aquaculture conference on: Stakeholder Collaborations: A Key to Building a Resilient and Strong Aquaculture Industry

d) Other (Provide website address or link to appropriate information):
3
Technical reports:

1. Duodu, Samuel & Jansen, Mona & Nkansa, Mary & Tavornpanich, Saraya & Nordheim, Kari & Zornu, Jacob & Naa, Angela & Ayiku, Amerley & Adelani, Abigail & Erkinharju, Toni & Svendsen, Julie & Fritsvold, Camilla & Kuiper, Raoul & Cudjoe, Kofitsyo & Brun, Edgar. (2024). Fish for development baseline study in tilapia farms on Lake volta. 10.13140/RG.2.2.12126.75840.

- -

2. Report from the visit by Norwegian Veterinary Institute (NVI) to Madagascar October 2023 to assist Tilapia De L'est (TDE) on a mission by Norges Vel (not public)

3. Fish health report – the NVI annual report on fish health status in Norwegian aquaculture

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
Members of the Collaborating Centre attended workshops and trainings in the area of epidemiology and data analyses including: use of basic epidemiological tools, analysis of data, risk analysis, outbreak investigation, assessment of epidemiological surveillance and biosecurity in Aquatic Animals.

12. Additional comments regarding your report: