



**Launch of the
Regional Aquatic
Animal Health Laboratory
Network for Africa
(RAAHLN-AF)**

**5 – 7 December 2023
Pretoria, South Africa**

**Lancement du Réseau
régional des laboratoires
de santé des animaux
aquatiques pour l'Afrique
RRLSAA-AF**

**5 – 7 décembre 2023
Pretoria, Afrique du Sud**



MEETING REPORT

Launch of the Regional Aquatic Animal Health Laboratory Network for Africa (RAAHLN-AF)

World Organisation for Animal Health (WOAH)

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List of acronyms

AAHS	Aquatic Animal Health Strategy (Global) WOAH
AAHSC	Aquatic Animal Health Standards Commission (WOAH)
AF	Africa
ARC	Agricultural Research Council (South Africa)
AU	African Union
AU-IBAR	Interafrican Bureau for Animal Resources (AU)
AVC	Atlantic Veterinary College (UPEI)
CEFAS	Centre for Environment, Fisheries and Aquaculture Science (United Kingdom)
CEMAC	Communauté Economique et Monétaire de l'Afrique Centrale
CEEAC	Communauté Economique des Etats de l'Afrique Centrale
CLAR	Central Laboratory for Aquaculture Research (Egypt)
COMESA	Common Market for Eastern and Southern Africa
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
DALRRD	Department of Agriculture, Land Reform and Rural Development (South Africa)
DFFE	Department of Forestry, Fisheries and the Environment (South Africa)
EAC	East African Community
ECOWAS	Economic Community of West African States
ERFAN	Enhancing Research for Africa Network (IZS)
FAO	Food and agriculture organisation of the United Nations
IAEA	International Atomic Energy Agency
ICPALD	IGAD Centre for Pastoral Areas and Livestock Development
IGAD	Inter-Governmental Authority of Development
INSTM	Institut National des Sciences et Technologies de la Mer (Tunisia)
IZS	Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise, Teramo (Italy)
LSC	Laboratory Sub-Committee (SADC)
MC	Member Country (AU)

NA	North Africa
NVI	Norwegian Veterinary Institute
OVRI	Onderstepoort Veterinary Research Institute (ARC)
PVS	Performance of Veterinary Services (WOAH)
RAAHLN	Regional aquatic animal health laboratory network
RAAHN	Regional aquatic animal health network
SA	Southern Africa
SADC	Southern African Development Community
UMA	Union du Maghreb Arabe
UNZA	University of Zambia
UP	University of Pretoria (South Africa)
UPEI	University of Prince Edward Island (Canada)
US-CDC	United States Centres for Disease prevention and Control
WOAH	World Organisation for Animal Health (founded as OIE)
WRLFMD	World Reference Laboratory for Foot-and-mouth disease

Executive Summary

After the launch of the *Regional Aquatic Animal Health Networks* (RAAHN) for [North Africa](#) (NA), in April 2023 (Tunis, Tunisia) and for [Southern Africa](#) (SA), in July 2023 (Lusaka, Zambia), this event represented the launch of the continental *laboratory* network for the Africa region (RAAHLN-AF). Indeed, the main technical constraint which is recurrently raised is the diagnostic capacity of national laboratories and laboratories with a regional outreach agenda. This justified the support to the establishment of this third network, specifically directed at uniting experts from Reference Laboratories (and Collaborating Centres) with a limited number of interested countries and diagnostic facilities in Africa, with a view of scaling up its range at a later stage.

Specifically, the network (launch) intended to:

1. Create awareness among participants on the landscape of international and regional reference laboratories and collaborating centers, in addition to other similar networks and the private sector;
2. Develop draft terms of reference and a short-to-medium term action plan for RAAHLN-AF;
3. Deliberate on options and propose recommendations for institutionalising regional aquatic animal health laboratory systems within the respective regions of Africa.

This third meeting, commissioned by the African Union's [Interafrican Bureau for Animal Resources](#) (AU-IBAR) was hosted by the *Agricultural Research Council* of South Africa (ARC) and its [Onderstepoort Veterinary Research Institute](#) (OVRI) from 5 – 7 December, brought together four existing accredited WOAHO Reference Laboratories, for diseases, relevant for the Africa region and located in :

- Australia ([CSIRO](#)), Dr Nick Moody,
- Norway ([NVI](#)), Dr Haakon Hansen,
- United Kingdom ([CEFAS](#)) Dr David Stone, and the
- United States ([University of Arizona](#)) Prof. Arun Dhar

along with 6 National Reference Laboratories with demonstrated experience in the diagnosis of one or more aquatic animal disease and the interest to play a regional role as regional service laboratories :

- Egypt ([CLAR](#)) Prof. Refaat El-Gamal
- Ghana ([Fisheries Commission](#)) Dr Stanley Obresi
- Nigeria ([DVS](#)) Dr Ganiyat Modupeola Ogunnoiki
- South Africa ([ARC-OVI](#)) Drs Livio Heath and Lia Rotherham
- Tunisia ([INSTM](#)) Prof. Nadia Cherif
- Zambia ([UNZA](#)) Prof. Bernard Hang'Ombe Mudenda

In addition to the four existing accredited WOAHO Reference Laboratories, the participation of the WOAHO Collaborating Centres for Epidemiology and Risk Assessment of Aquatic Animal Diseases (Americas) at the [Atlantic Veterinary College \(AVC\), University of Prince Edward Island \(Canada\)](#) [Larry Hammel] as well as the above mentioned [CEFAS](#) and [NVI](#) bodies, which also serve as Collaborating Centres for Emerging Aquatic Animal Diseases [Ed Peeler] and for Epidemiology and Risk Assessment of Aquatic Animal Diseases (Europe) [Haakon Hansen] respectively.

Also in attendance were two FAO colleagues, Drs Melba Reantaso and Andrea Dall’Occo ([Fisheries and Aquaculture Division, NFI](#)) and two FAO/WOAH experts, with extensive experience in working for and within the private sector (Drs David Huchzermeyer and Marc Le Groumellec).

Dr Kevin Christison, WOAH Focal Point and Specialist Scientist, Aquaculture Innovation and Technology Development at the South African *Department of Forestry, Fisheries and the Environment* (DFFE) attended as a Member of the *Aquatic Animal Health Standards Commission*.

AU-IBAR was represented by the Coordinator of the [FishGov-2 Project](#), Dr. Nelly Isyagi.

The meeting went through the agreed structure, the same that had also been followed by the two previous meetings (see agenda below) :

- International and regional landscape
- Situation analysis :
 1. Taking stock of other networks
 2. International reference laboratories
 3. National reference laboratories
 4. International collaborating centres
 5. Private sector / industry
- Development of terms of reference.
- Development of an institutional framework
- Development of a Plan of Action

Under point 1 (taking stock of other networks) a few other (international, regional and national) laboratory networks were presented, dealing with mostly terrestrial diseases and/or diseases of public health interest:

- [ERFAN](#) : OVRI – IZS (Italy) (Dr Itumeleng Matle)
- [VETLAB : Joint Division FAO-IAEA](#) (Dr Charles Euloge Lamien)
- [RABLAB : US-CDC](#) (Dr Ryan Wallace)

At the end of the 3-day meeting, provisional agreement was reached on the terms of reference, the institutional and legal arrangements, and the short to medium term action plan(s).

Official Opening

Opening remarks

The opening remarks were delivered by:

- Dr Mohamed Sirdar, WOAHP Programme Officer, on behalf of the WOAHP Sub-Regional Representative for Southern Africa, Gaborone, Botswana;
- Dr Bothe Michael Modisane, WOAHP Delegate of South Africa, and Chief Director of Animal Production and Health, *Department of Agriculture, Land Reform and Rural Development (DALRRD)*, Pretoria, South Africa;
- Ms Andrea Bernatzeder, Director of Aquaculture Innovation and Technology Development, *Department of Forestry, Fisheries and the Environment (DFFE)*, Cape Town, South Africa.

Introduction

Dr Patrick Bastiaensen (Programme Officer, WOAHP Sub-Regional Representation for Eastern Africa, Nairobi, Kenya) delivered an introductory speech to present the background, objectives, expected outcomes and an overview of the workshop programme, concluding by expecting participants to embrace realism and altruism, transparency and keeping sustainability in mind throughout the meeting.

This opening session was followed by a round of self-introductions by all attending participants, and closed with a group photograph and refreshments.



Group photo of the workshop participants. Picture © Communication / Isaac (ARC) 2023

The international and regional landscape

The session was introduced through four overview presentations, covering the international and regional (continental) frameworks in place, from WOA and FAO, to Codex Alimentarius and the African Union:

- Dr Larry Hammell (Scientific Advisor AAHS, WOA Regional Activities Department, Paris, France) presented an overview of the WOA first *Global Aquatic Animal Health Strategy* (AAHS) and how it aims to improve the aquatic animal health and welfare worldwide.
- Dr Kevin Christison (Member of the Aquatic Animal Health Standards Commission; and Department of Forestry, Fisheries and the Environment, Durbanville, South Africa) presented WOA Aquatic Animal Health Standards Commission's composition, roles and activities, and gave an overview of both the Aquatic Animal Health Code and the Manual of Diagnostic Tests for Aquatic Animals.
- Dr Melba Reantaso (Team Leader, Food Safety, Nutrition and Health. Fisheries and Aquaculture Department, Food and Agriculture Organisation, FAO, Rome, Italy) presented the FAO Aquatic Animal Health and Biosecurity Guidelines, followed by a video-presentation on the Codex Alimentarius standards on fish food safety (by Ms Esther Garrido Gamarro)
- Dr Nelly Isyagi (Coordinator, FISHGOV-2 Project, Interafrican Bureau for Animal Resources, African Union, AU-IBAR, Nairobi, Kenya) presented¹ the status of the African fisheries and aquaculture sector, as well as the AU framework documents and agreements that govern the sector : the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa, the Africa Blue Economy Strategy, the Animal Health Strategy for Africa, and the Animal Welfare Strategy for Africa.

¹ Delivered on day two.

Session 1: Performing a Situation Analysis

The second session of the workshop focused on the situation analysis and lessons to be learned from existing aquatic animal health laboratory networks including other sectors (terrestrial and veterinary public health), international reference laboratories, international collaborating centres, national reference laboratories, private sector and the industry. A diverse group of experts representing national, regional and global institutions presented on governance structures, mandates, contribution to their target communities, industry needs, and aspiration, facilities, services and challenges encountered in assisting Members countries, governments and industry. The participating institutions and experts included:

Existing aquatic animal health (laboratory) networks in other regions

- Network of WOAHA Reference Laboratories in aquatic animal health, Australian Centre for Disease Preparedness (CSIRO), Dr Nick Moody.

The (second) presentation by Dr Eduardo Leña of the *Network of Aquaculture Centres in Asia and the Pacific* (NACA) could unfortunately not be delivered as Dr Leña was not granted an entry visa into the Republic.

Other international and regional laboratory networks

- FAO/WOAH (WRLFMD) Network, Dr Mohamed Sirdar
- Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, Veterinary Diagnostic Laboratory (VETLAB) Network, Dr Charles E. Lamien
- Enhancing Research for Africa (ERFAN) Laboratory Network, Dr Itumeleng Matle
- US-CDC Division of High-Consequence Pathogens and Pathology, US-CDC, Dr Ryan Wallace

International Reference Laboratories

- Australia : Australian Centre for Disease Preparedness (CSIRO), Dr Nick Moody
 - Infection with epizootic haematopoietic necrosis virus
 - Infection with ranavirus
 - Infection with yellow head virus genotype 1
- Norway : *Norwegian Veterinary Institute* (NVI), Dr Haakon Hansen
 - Infection with *Gyrodactylus salaris*
- United Kingdom : *Centre for Environment, Fisheries and Aquaculture Science* (CEFAS) Dr David Stone,
 - Infection with koi herpesvirus
 - Infection with spring viraemia of carp virus
- United States : Aquaculture Pathology Laboratory (University of Arizona) Prof. Arun Dhar
 - Acute hepatopancreatic necrosis disease
 - Infection with *Hepatobacter penaei* (necrotising hepatopancreatitis)
 - Infection with Taura syndrome virus
 - Infection with infectious hypodermal and haematopoietic necrosis virus
 - Infection with white spot syndrome virus

International Collaborating Centres

- Canada : *University of Prince Edward Island (UPEI)*, Prof. Larry Hammell
 - Epidemiology and Risk Assessment of Aquatic Animal Diseases (Americas)
- United Kingdom : *Centre for Environment, Fisheries and Aquaculture Science (CEFAS)*, Dr Ed Peeler
 - Emerging Aquatic Animal Diseases
- Norway : *Norwegian Veterinary Institute (NVI)*, Dr Haakon Hansen
 - Epidemiology and Risk Assessment of Aquatic Animal Diseases (Europe)

National Reference Laboratories

- Egypt : *Central Laboratory for Aquaculture Research (CLAR)* Prof. Refaat El-Gamal
- Ghana : National Fisheries Commission (Fisheries Commission) Dr Stanley Obresi
- Nigeria : Fisheries Laboratory (DVS) Dr Ganiyat Modupeola Ogunnoiki
- South Africa : *Agricultural Research Council, Onderstepoort Veterinary Research Institute (ARC-OVRI)* Drs Livio Heath and Lia Rotherham
- Tunisia : National Institute for Marine Science and Technologies (INSTM) Prof. Nadia Cherif
- Zambia : School of Veterinary Medicine, *University of Zambia (UNZA)* Prof. Bernard Hang'Ombe Mudenda

Private sector and industry

- Madagascar : *Aquaculture de la Mahajamba (Aqualma)*, Dr Marc Le Groumellec
- South Africa : Department of Ichthyology and Fisheries Science (Rhodes University), Dr David Huchzermeyer

This session also provided a platform to highlight the progress on the recently established regional aquatic animal health networks that were launched in North and Southern Africa in 2023.

- Regional Aquatic Animal Health Network for Northern Africa, Dr Francesco Valentini
- Regional Aquatic Animal Health Network for Southern Africa, Dr Mohamed Sirdar

The session was concluded with a general understanding and consensus that RAAHNL-AF can leverage on the existing strength of international and regional reference laboratories and collaborating centres to set a platform for assisting Africa Member countries with laboratories' needs. All participating international bodies confirmed their willingness to support the newly established Network to fulfil its mandate.

The detailed agenda and presentations can be accessed in Annex (1). <https://rr-africa.woah.org/en/news/launch-of-the-regional-aquatic-animal-health-laboratory-network-for-africa-2/>

Session 2: Development of RAAHLN-AF Terms of Reference

The purpose of this session was to come up with the broad outlines of a *modus operandi* for the regional laboratory network and in particular the options for establishing linkages between existing national animal health diagnostic services, willing to perform duties as reference laboratories within the region (service laboratories), international reference centres (WOAH/FAO Reference Laboratories and Collaborating Centres), the private sector, research centres and institutions, and other technical and development partners.

Contrary to the previous network launches, given the relatively small number of participants and the fact that the meeting was conducted in a single language, participants chose to discuss this topic as a single group.

Participants subsequently defined the aspirational *purpose, vision* and *goal(s)* of the network, thereafter agreeing on the three main *objectives* of the network, i.e. to:

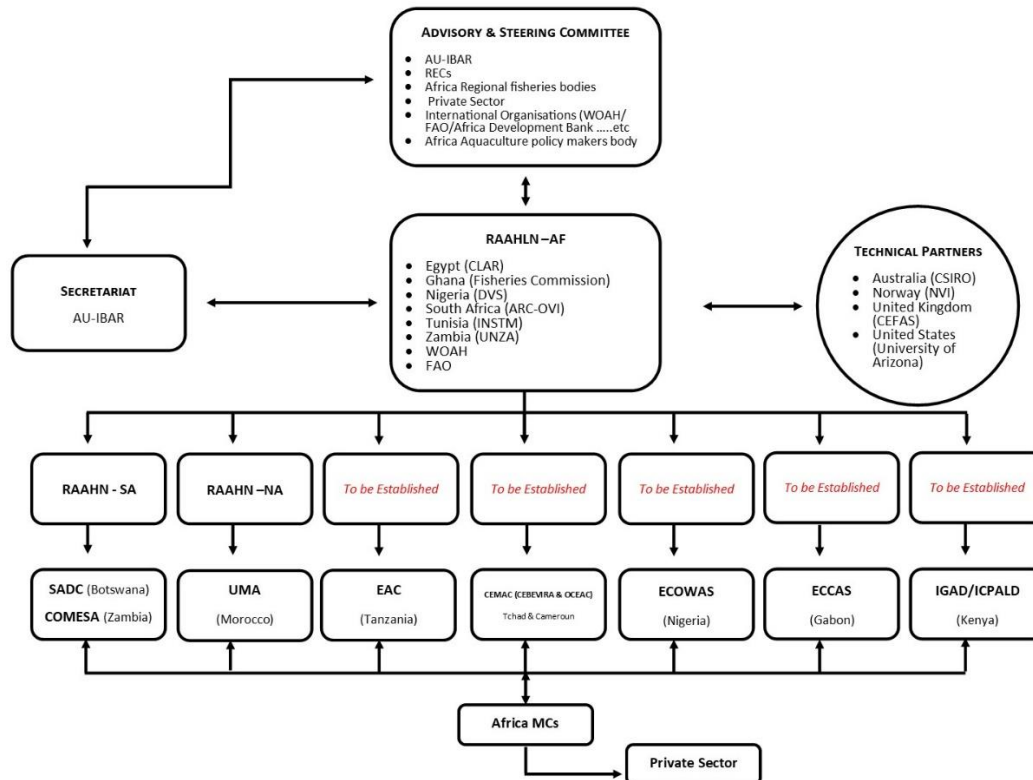
1. Promote and strengthen the establishment of collaborative partnerships and networking between national, regional and international aquatic animal health laboratories and public and private-sector fisheries and aquaculture institutions to support pathogen detection and identification, as well as the delivery of aquatic animal health services in Africa;
2. Improve the capacity for, and access to, quality aquatic animal health laboratory services and information in Africa by promoting and supporting the harmonization and standardization of diagnostic techniques, products, services, expertise and regulations in compliance with national, regional and international standards;
3. Establish a continental aquatic animal health laboratory information system and capacity building (training) programmes.

Session 3: Development of RAAHLN-AF Institutional Framework

The third session was again conducted as a single group, discussing the institutional anchoring of the network and its various institutional linkages therewith.

It was early on agreed that the network would consist of a small *technical* committee (essentially consisting of the participants to the present meeting) and a broader oversight, steering or *advisory* committee, with representation from additional political and geographical entities, such as secretariats of regional economic communities, regional fisheries bodies or authorities, international organisations, donors, and continental-level policy organs, in addition to the two regional aquatic animal health networks (for north and for southern Africa), with others to follow². Members (member states and territories) are represented through the various regional networks and communities. See flowchart below.

² As can be seen from the above flowchart, more regional aquatic animal health networks are envisaged, e.g. for eastern Africa, for central Africa and for west Africa.



The group – to a limited degree – also focused on some of the details, one of which is the role that the African Union could and should play as the Secretariat of this laboratory network, as it is well-positioned at the nexus of technical/scientific and political/governance influence. As a consequence, the Secretariat would be hosted by the *Interafrican Bureau for Animal Resources (IBAR)* in Nairobi, Kenya.

Other important institutional steps, with legal ramifications, were also discussed, such as :

- Developing a platform for information sharing;
- Developing guidelines for data sharing (requiring formal agreements);
- Developing guidelines for biological material sharing (requiring formal agreements);
- Legal recognition of participating institutions (by national authorities) e.g. as national reference laboratories;
- Government buy-in and permissions to partake in the network; (where institutions are not directly under government authority);
- Development of MoUs or Cooperation Agreements and other statutory requirements and obligations;
- Define capabilities and roles of each institution;
- Identify technical partners (beyond FAO, WOA and AU-IBAR) and
- Administering of funding opportunities (Secretariat).

Aspects of resource mobilisation / funding were also addressed, in particular the need to develop a business plan and resource mobilisation strategy.

Session 4: Development of RAAHLN-AF Action Plan

The short, medium and long-term action plans were developed through a participatory approach, where participants of the workshop were divided into two groups and focused on different aspects of the Network.

The Action plan was guided by the objectives of the Network:

- Promoting and strengthening the establishment of collaborative partnerships and networking between national, regional and international aquatic animal health laboratories, public and private-sector fisheries and aquaculture institutions to support pathogen detection and identification, as well as the delivery of Aquatic Animal Health Services in Africa.
- Improving the capacity for and access to quality aquatic animal health laboratory services and information in Africa by promoting and supporting the harmonization and standardization of diagnostic techniques, products, services, expertise and regulations in compliance with national, regional and international standards.
- Establishing a continental Aquatic Animal Health laboratory information system and capacity building (training) programmes.

Short-Term Action Plan (12-18 months)

- Identification of Africa “National Reference Laboratories” and other testing and diagnostic laboratories with different level of activities through a mapping and assessment process. The assessment process could be conducted through “self-assessment questionnaires” that targets but not limited to veterinarians, laboratories, fisheries departments and universities.
- Perform a gap analysis of identified laboratories to determine their needs, infrastructure, quality assurance, legal and policy review.... etc.
- Development of a regional priority pathogen list based on pathogens listed in existing regional and national aquatic organism health strategies.
- Determine the testing capacities of the laboratories identified through the mapping and assessment process.
- Define the minimum standard of quality requirement for inclusion of laboratories in the network.
- Develop guidelines for transportation of specimens among laboratories.
- Develop a framework of code of practice and define the minimum quality standards for testing.
- Encourage and assist advanced laboratories in Africa to become involved in proficiency testing schemes that are internationally available.

Medium to Long-Term Action Plan (18-36 months)

- Develop SOPs for sample collection, sample preservation, pathogen detection (FAO-recommended diagnostic levels I, II & III).
- Setting a protocol for identifying newly emerged disease.
- Create a database of laboratories, which identifies possible twinning laboratories with specific emphasis on regional focal laboratories to serve neighbouring countries.
- Participation in *Proficiency Testing* (PT) to assess laboratory capabilities.
- Identify laboratory capabilities in dealing with emergency situations to meet the requirements of regional and national emergency response plans.
- Develop a technical and advisory communication strategy that guides information sharing and data sharing agreements.
- Simplify WOAHL guidelines (collection and transport of samples) for field diagnostics and customise the guidelines to the African context for specific priority pathogens and make it available in four languages (French, English, Portuguese and Arabic).

- Develop a database for the distribution of providers of positive controls.
- Identify research needs and develop joint funding proposals that considers African funding institutions.
- Develop training plans with defined priorities.

Official Closure

Recommendations / next steps

- WOAH, in collaboration with AU-IBAR, will draft the proceedings (meeting report) of the workshop and will circulate them for approval. Members (present at the meeting) will have 3 weeks to review/approve the proceedings.
- After the approval, the first meeting of the Steering Committee and Technical Committee will be convened, depending on the availability of members. The Secretariat will be in charge of coordinating the meetings and the agenda shall include the following talking points:
 - Official approval of the Draft Terms of Reference of the RAAHLN-AF;
 - Completion and official approval of the Draft Action Plan of the RAAHLN-AF;
 - Development of the Institutional Framework of the RAAHLN-AF.
- Should it be deemed necessary by the Steering Committee, AU-IBAR will provide its legal expertise to collaborate with the network committees to develop the legal framework of the RAAHLN.



Group photo of the workshop participants and hosts at the Faculty of Veterinary Sciences. Picture © Paraclinical Studies Department (UP) 2023

Field visit

At the end of the workshop, the host country organised a visit to some of the diagnostic facilities at the ARC's *Onderstepoort Veterinary Research Institute (OVRI)*, as well as a tour of the Faculty of Veterinary Sciences of the *University of Pretoria (UP)*, also located at the historical Onderstepoort site.

Annexes

1. Annex 1: Agenda
2. Annex 2: List of participants

All presentations of the workshop are available at the following links:

EN: [Launch of the Regional Aquatic Animal Health Laboratory Network for Africa](#)

FR: [Lancement du réseau régional de laboratoires de santé des animaux aquatiques pour l'Afrique](#)

Annex 1. Agenda (as delivered)



AGENDA

DAY 1 - Tuesday 5 December 2023

08:00-09:00	Welcoming of participants		
OPENING SESSION			
09:00-09:30	Opening remarks	<p>Mohamed Sirdar</p> <p>Botlhe Michael Modisane</p> <p>Nelly Isyagi</p> <p>Belemane Semoli</p> <p><u>Andrea Bernatzeder</u></p>	<p>WOAH Southern Africa</p> <p>Chief Director for Animal Production and Health, and WOA Delegate, RSA</p> <p>FishGov II Coordinator, AU-IBAR</p> <p>Chief Director for Freshwater Fisheries and Aquaculture Development, RSA</p> <p><u>Director for Aquaculture Innovation and Technology Development, RSA</u></p>
09:30-09:40	<p>Background and objectives of the workshop:</p> <ul style="list-style-type: none"> • What do we want to achieve? • What do we need to get there? 	Patrick Bastiaensen	WOAH Eastern Africa
09:40-10:00	<p>Icebreaker:</p> <ul style="list-style-type: none"> • Self-introduction and what are your expectations of the workshop? (<u>mentimeter survey</u>) 		<i>all participants</i>

SESSION 1 : THE INTERNATIONAL AND REGIONAL LANDSCAPE

<p>10:00-11:00</p>	<p>World Organisation for Animal Health</p> <ul style="list-style-type: none"> • WOAH Aquatic Animal Health Strategy • Provisions of the WOAH Aquatic Animal Health Manual <p>Food and Agriculture Organisation</p> <ul style="list-style-type: none"> • FAO Aquatic Animal Health and Biosecurity Guidelines • Codex Alimentarius standards on fish food safety 	<p>Larry Hammell</p> <p>Kevin Christison</p> <p>Melba Reantaso (video presentation)</p>	<p>WOAH Regional Activities Department (and University of Prince Edward Island, Canada)</p> <p>WOAH Aquatic Animal Health Standards Commission (Department of Forestry, Fisheries and the Environment, South Africa)</p> <p>Food Safety, Nutrition and Health. Fisheries and Aquaculture Department, Food and Agriculture Organisation (FAO)</p>
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11:00-11:30

Coffee break and group photo

~~11:30-11:50~~

African Union

- ~~Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa~~
- ~~Africa Blue Economy Strategy~~
- ~~Animal Health Strategy for Africa~~
- ~~Animal Welfare Strategy for Africa~~

Nelly Isyagi

FISH GOV II Project African Union – Interafrican Bureau for Animal Resources (AU-IBAR)

SESSION 2 : SITUATION ANALYSIS

<p>11:50-13:00</p>	<p>Taking stock of existing aquatic animal health (laboratory) networks in other regions</p> <ul style="list-style-type: none"> • International : Network of WOAH Reference Laboratories in aquatic animal health • Regional : Network of Aquaculture Centres in Asia and the Pacific (NACA) • International : FAO/WOAH World Reference Laboratory for FMD (WRLFMD) Network 	<p>Nick Moody</p> <p>Eduardo Leano</p> <p>Mohamed Sirdar</p>	<p>Australian Centre for Disease Preparedness, CSIRO</p> <p>Network of Aquaculture Centres in Asia and the Pacific (NACA)</p> <p>WOAH Southern Africa (Member of the Global FMD Working Group)</p>
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13:00-14:00	<i>Lunch</i>		
14:00-15:00	<p>Taking stock of existing laboratory networks in other sectors (terrestrial diseases, public health)</p> <ul style="list-style-type: none"> • International : Veterinary Diagnostic Laboratory (VETLAB) Network (IAEA) ONLINE • Regional : ERFAN Laboratory Network • Regional : Laboratory and diagnostics Sub-Committee of the SADC Livestock Technical Committee ONLINE • National : US-CDC ONLINE 	<p>Charles E. Lamien</p> <p>Itumeleng Matle</p> <p>Pious Makaya</p> <p>Ryan Wallace</p>	<p>Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, Vienna.</p> <p>Onderstepoort Veterinary Research Institute (OVRI), South Africa</p> <p>Chair of the SADC LSC (Zimbabwe)</p> <p>Division of High-Consequence Pathogens and Pathology, US-CDC</p>
15:00-15:30	<p>Feedback from the two regional aquatic animal health networks launched in 2023</p> <ul style="list-style-type: none"> • RAAHN-NA ONLINE • RAAHN-SA 	<p>Francesco Valentini</p> <p>Mohamed Sirdar</p>	<p>WOAH North Africa</p> <p>WOAH Southern Africa</p>
15:30-16:10	<p><u>Member states contributions :</u> <u>International Reference Laboratories:</u></p> <p>The Designated Expert of the selected Reference Laboratories present their facilities, services and challenges encountered in assisting Members</p> <ul style="list-style-type: none"> • United States • United Kingdom 	<p>Arun Dhar</p> <p>David Stone</p>	<p>Aquaculture Pathology Laboratory, University of Arizona</p> <p>Centre for Environment, Fisheries and Aquaculture Science, CEFAS</p>
16:10-16:40	<i>Coffee break</i>		

16:40-17:20	<u>Member states contributions :</u> <u>International Reference Laboratories:</u> The Designated Expert of the selected Reference Laboratories present their facilities, services and challenges encountered in assisting Members <ul style="list-style-type: none"> • Norway • Australia 	Haakon Hansen Nick Moody	Norwegian Veterinary Institute, NVI Australian Centre for Disease Preparedness, CSIRO
17:20-17:50	<u>Member states contributions :</u> <u>National Reference Laboratories:</u> The representative of the selected National Laboratories present their facilities, services and challenges encountered in assisting their governments and the industry: <ul style="list-style-type: none"> • Nigeria • Ghana 	Modupeola ‘Dupe’ Ogunnoiki Stanley Henry Ekow Obresi	Nigeria Fisheries Laboratory National Fisheries Commission
After 19:00 <i>Welcome dinner</i>			

DAY 2 - Wednesday 6 December 2023

09:00-09:45	<u>African Union</u> <ul style="list-style-type: none"> • <u>Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa</u> • <u>Africa Blue Economy Strategy</u> • <u>Animal Health Strategy for Africa</u> • <u>Animal Welfare Strategy for Africa</u> 	<u>Nelly Isyagi</u>	<u>FISH-GOV II Project African Union - Interafrican Bureau for Animal Resources (AU-IBAR)</u>
09:00-09:15	Summary and commentary of the first day's presentations and discussions		<i>all participants</i>

<u>09:45-10:15</u>	<p><u>Member states contributions :</u> <u>National Reference Laboratories:</u></p> <p>The representative of the selected National Laboratories present their facilities, services and challenges encountered in assisting their governments and the industry:</p> <ul style="list-style-type: none"> • Egypt • Tunisia 	<p>Refaat El-Gamal</p> <p>Nadia Chérif</p>	<p>Central Laboratory for Aquaculture Research</p> <p>National Institute for Marine Science and Technologies</p>
<u>10:15-11:00</u>	<p><u>Member states contributions :</u> <u>International Collaborating Centres:</u></p> <p>The Contact Points for the selected Collaborating Centres present their facilities, services and challenges encountered in assisting Members:</p> <ul style="list-style-type: none"> • Canada • United Kingdom • Norway 	<p>Larry Hammell</p> <p>Ed Peeler</p> <p>Haakon Hansen</p>	<p>University of Prince Edward Island (UPEI)</p> <p>Centre for Environment, Fisheries and Aquaculture Science (CEFAS)</p> <p>Norwegian Veterinary Institute (NVI)</p>
<u>11:00-11:30</u>	<i>Coffee break</i>		
<u>11:30-12:00</u>	<p><u>Member states contributions :</u> <u>National Reference Laboratories:</u></p> <p>The representative of the selected National Laboratories present their facilities, services and challenges encountered in assisting their governments and the industry:</p> <ul style="list-style-type: none"> • South Africa • Zambia 	<p>Livio Heath</p> <p>Bernard Hang’Ombe Mudenda</p>	<p>Onderstepoort Veterinary Research Institute (OVRI)</p> <p>School of Veterinary Medicine, University of Zambia (UNZA)</p>

12:00 – 12:30	<u>Member states contributions :</u> <u>Private sector / industry needs and aspirations:</u> <ul style="list-style-type: none"> • Madagascar • South Africa 	<p>Marc Le Groumellec</p> <p>David Huchzermeyer</p>	<p><i>Aquaculture de la Mahajamba (Aqualma)</i></p> <p>Department of Ichthyology and Fisheries Science, Rhodes University</p>
12:30-13:00	<u>Plenary discussion</u>	<i>all participants</i>	
13:00-14:00	<i>Lunch</i>		
SESSION 3 : DEVELOPMENT OF RAAHLN TERMS OF REFERENCE			
14:00-14:20	Plenary presentation of the draft Terms of Reference for the RAAHLN	WOAH/AU-IBAR	
	<ul style="list-style-type: none"> • Draft Terms of Reference for the regional diagnostic network that elaborate on options for establishing linkages with existing national animal health diagnostic services, relevant recognised aquatic animal health reference laboratories within the region (service laboratories) and internationally (WOAH / FAO Reference Laboratories), private sector, R&D and other technical and development partners. 		
14:20-15:20	<u>Group discussion 1 :</u> <ul style="list-style-type: none"> • Three groups – no rotation, each group will focus on one section of the draft Terms of Reference (30 min) + report back (30 min) <p>[Background documents and a template will be provided]</p>	WOAH, FAO, AU-IBAR, NACA, facilitators	
15:20-15:50	<u>Plenary discussion:</u> Validation/approval of all the points of the draft Terms of Reference		
15:50-16:20	<i>Coffee Break</i>		

SESSION 4 : DEVELOPMENT OF RAAHLN INSTITUTIONAL FRAMEWORK

16:20-16:30	<p>Plenary presentation of the draft Institutional Framework for the RAAHLN</p> <ul style="list-style-type: none"> Proposals for institutionalising the proposed <i>Regional Aquatic Animal Health Laboratory Network</i> (draft institutional framework) into the most appropriate Regional Economic Community (AU) 	WOAH/AU-IBAR
16:30-17:15	<p><u>Group discussion 2 :</u></p> <ul style="list-style-type: none"> Three groups – no rotation, each group will focus on one section of the Draft Institutional Framework (30 min) + report back (15 min) <p>{Background documents and a template will be provided}</p>	WOAH, FAO, AU-IBAR, NACA, facilitators
17:15-17:45	<p><u>Plenary discussion:</u></p> <p>Validation/approval of all the points of the Institutional Framework</p>	<i>all participants</i>

DAY 3 - Thursday 7 December 2023

09:00-09:15	Summary and commentary of the second day's (group) discussions	<i>all participants</i>
08:30-09:15	Visit of the facilities at the Onderstepoort Veterinary Research Institute (1)	Host country (RSA)

SESSION 5 : DEVELOPMENT OF RAAHLN INAUGURAL ACTION PLAN

09:15-09:30	<p>Plenary presentation of the draft Action Plan for the RAAHLN</p> <ul style="list-style-type: none"> Draft inaugural three-year action plan to facilitate the official inauguration of the regional diagnostic network and the establishment of mechanisms to strengthen regional control and surveillance of aquatic animal biosecurity and biosafety that include reporting to the continental and global aquatic animal health and food-safety reporting systems (i.e. AU-IBAR's ARIS and WOA's WAHIS, Codex Alimentarius' GLASS). 	WOAH, AU-IBAR
09:30-11:00	<p><u>Group Discussion 3:</u></p> <p>Prioritizing actions with indicative timelines and resource requirements to facilitate the institutionalization and operationalization of RAAHLN into the REC and animal health (SPS) infrastructure:</p> <ul style="list-style-type: none"> Near future (12 months) priorities Long term (3 years) priorities <p>Three (two) groups - no rotation, each group will focus on one section of the draft Action Plan (60 min) + report back (30 min)</p>	WOAH, FAO, AU-IBAR, NACA, facilitators

Suggested topics:

1. Identification of additional laboratories for aquatic animal diseases in member countries.
2. Using the Network to advocate for increased and better investments in diagnostic infrastructure and improved reporting from private laboratories to the Competent Authority.
3. Potential laboratory twinning projects.
4. Quality-assurance and ISO certification, laboratory management systems.
5. Assess available guidelines for biosecurity and biosafety, identify gaps and areas for improvement.
6. Sharing information on the occurrence of WOAHL listed diseases, other pathogens of regional significance and emerging diseases in the Region.
7. Promoting research on aquatic animal diseases, epidemiology, pathology and one health in aquaculture.

[Background documents and a template will be provided] [Mentimeter results shared](#)

<u>11:00-11:30</u>	<i>Coffee break</i>	
<u>11:30-12:00</u>	<u>Visit of the facilities at the Onderstepoort Veterinary Research Institute (2)</u>	<u>Host country (RSA)</u>
<u>12:00-12:30</u>	<u>Plenary discussion:</u> Validation/approval of all the points of the Regional Action Plan	<i>all participants</i> WOAH, FAO, AU-IBAR, NACA, facilitators
OFFICIAL CLOSURE		
<u>12:30-13:00</u>	List of recommendations – bullet points Closing remarks	<i>all participants</i> WOAH, AU-IBAR
<u>13:00-14:00</u>	<i>Lunch</i>	
<u>14:00-14:30</u>	<u>Visit of the facilities at the Onderstepoort Veterinary Research Institute (3)</u>	<u>Host country (RSA)</u>
<u>14:30-16:00</u>	<u>Visit of the facilities at the Faculty of Veterinary Sciences (UP)</u>	<u>Host country (RSA)</u>

Annex 2. List of participants

Title	First name	SURNAME	Position	Department / Division	Institution	City or town	Country
Dr	Patrick	BASTIAENSEN	Programme Officer	Sub-Regional Representation for Eastern Africa	WOAH	Nairobi	Kenya
Dr	Andrea	BERNATZEDER	Director	Aquaculture Innovation and Technology Development	Department of Forestry, Fisheries and the Environment (DFFE)	Cape Town	South Africa
Dr	Nadia	CHERIF	Associate Professor, Head of Disease of Aquatic	organisms team, Department of Aquaculture	National Institute for Marine Sciences and Technologies (INSTM)	Tunis	Tunisia
Dr	Kevin	CHRISTISON	Specialist Scientist	Aquaculture Innovation and Technology Development	Department of Forestry, Fisheries and the Environment (DFFE)	Durbanville, Cape Town	South Africa
Dr	Andrea	DALL'OCCO	Aquaculture Officer	Fisheries and Aquaculture Division (NFI)	Food and Agriculture Organization of the United Nations (FAO)	Rome	Italy
Prof.	Arun	DHAR	Professor, Director of the Aquaculture Pathology Lab	School of Animal & Comparative Biomedical Sciences	University of Arizona	Tucson, Arizona	USA
Prof.	Refaat	EL-GAMAL	Director of Central Lab. of Aquaculture Research	Agriculture research center	Ministry of Agriculture	Abbassa	Egypt
Prof.	Larry	HAMMELL	Professor, Director Collaborating Centre	Atlantic Veterinary College	University of PEI / WOAHP (Paris)	Charlottetown	Canada

Title	First name	SURNAME	Position	Department / Division	Institution	City or town	Country
Prof.	Bernard M.	HANG'OMBE	Professor	Department of Microbiology, Paraclinical Studies Department	University of Zambia, School of Veterinary Medicine	Lusaka	Zambia
Dr	Haakon	HANSEN	Senior Researcher	Department for Aquatic Animal Health, Fish Health Research Sc	Norwegian Veterinary Institute	Ås	Norway
Dr	Livio	HEATH	Research Team Manager	Vaccine Production	Onderstepoort Veterinary Research Institute	Onderstepoort	South Africa
Dr	David	HUCHZERMEYER	Associate Researcher	Ichthyology and Fisheries Science	Rhodes University	Lydenburg	South Africa
Dr	Nelly	ISYAGI	Fisheries and Aquaculture Trade and Investment Expert	Fisheries and Aquaculture	AU-IBAR	Nairobi	Kenya
Dr	Charles E.	LAMIEN (online)	Technical Officer	Joint FAO/IAEA Center	IAEA	Vienna	Austria
Dr	Marc	LE GROUMELLEC	Director of Domestication and genetics, Biosecurity and Pathology	Direction Generale Aquaculture	Aqualma / Unima	Majunga	Madagascar

Title	First name	SURNAME	Position	Department / Division	Institution	City or town	Country
Dr	Itumeleng	MATLE	Senior Researcher	Bacteriology	Onderstepoort Veterinary Research Institute	Onderstepoort	South Africa
Dr	Botlhe M.	MODISANE	Chief Director	Animal Production and Health	Department of Agriculture, Land Reform and Rural Development (DALRRD)	Pretoria	South Africa
Dr	Nick	MOODY	Research Group Leader	Australian Centre for Disease Preparedness	CSIRO	Geelong	Australia
Dr	Stanley	OBRESI	Northern Sector (Head of Fisheries Lab)	Fish Health Unit	Fisheries Commission	Kumasi	Ghana
Dr	Ganiyat M.	OGUNNOIKI	Assistant Chief Veterinary Officer / Deputy Director	Federal Department of Veterinary and Pest Control Services	Federal Ministry of Agriculture and Food Security	Abuja	Nigeria
Prof.	Edmund	PEELER	Epidemiologist	Epidemiology	CEFAS	Weymouth	UK
Dr	Melba	REANTASO	Team Leader	Fisheries and Aquaculture Division (NFI)	Food and Agriculture Organization of the United Nations (FAO)	Rome	Italy
Dr	Lia	ROTHERHAM	Senior Researcher	Vaccines and Diagnostics Development	Onderstepoort Veterinary Research Institute	Onderstepoort	South Africa

Title	First name	SURNAME	Position	Department / Division	Institution	City or town	Country
Dr	Mohamed	SIRDAR ISSA ADAM	Programme Officer	Sub-Regional Representation for Southern Africa	WOAH	Gaborone	Botswana
Dr	David	STONE	Principle Molecular Virologist	Molecular Diagnostics	CEFAS	Weymouth	UK
Dr	Francesco	VALENTINI (online)	Programme Officer	Sub-Regional Representation for North Africa	WOAH	Tunis	Tunisia
Dr	Ryan	WALLACE (online)	Lead, Rabies Epidemiology Team	LCDR US Public Health Service	US-CDC	Atlanta, Georgia	USA