

Session 3, 4, and 11 – World Cafés

Moderators: Samuel Castro, Chyna Yong Suit-B

The World Café sessions across Day 1 and Day 3 form a continuous, iterative process with the goal of mapping regional challenges and solutions to inform activity plans for WOAHA and AP-AquaNet.

- Day 1 – Session 3: Mapping regional challenges
- Day 1 – Session 4: Synthesis and priority setting of regional challenges
- Day 3 – Session 13: Regional priority actions for aquatic animal health

Summary of outputs

Top Priority Regional Challenges (>7 votes)

1. **Capacity and resource constraints** ○ 19 votes
This was the highest-voted challenge overall, specifically regarding reporting. It encompasses the lack of diagnostic capacity, time restraints, limited human resources, and a shortage of trained professionals
2. **Knowledge/awareness gaps about WAHIS and reporting systems** ○ 15 votes
Participants highlighted a significant lack of confidence in WAHIS reporting, technical issues, and confusion regarding changes in reporting procedures and the Aquatic Code
3. **Communication and collaboration barriers** ○ 15 votes
Key issues include internal data-sharing difficulties, slow administrative processing, and challenging relationships with farmers.
4. **Limited access to diagnostic resources and reference materials** ○ 10 votes
A major hurdle in diagnostics is the lack of positive controls, reference materials for emerging diseases, and limited availability of reagents and equipment
5. **Water management in shared aquatic systems** ○ 10 votes
For biosecurity, defining zones is particularly challenging in shared river systems between countries

6. **Fear and consequences of reporting** ○ 10 votes

A significant barrier to transparency is the fear among farmers and countries of trade restrictions or management consequences resulting from disease notifications

7. **Other significant challenges** ○ 7 votes

- a. Concerns on biosecurity in ornamental fish trade
- b. Challenging surveillance implementation and sustainability - include limited funding for epidemiology, the high cost of active surveillance, and a lack of expertise and protocols on surveillance design
- c. Limited laboratory capability and capacity- notable shortage and high turnover of skilled laboratory personnel, alongside a general lack of infrastructure

Top Priority Regional Solutions (>7 votes)

1. **Role of Focal Points and Delegates** ○ 16 votes

This solution focuses on **updating Terms of Reference** for Focal Points and Delegates and **enhanced communication** through WAHIS support desk. Key actions include creating a "**welcome package**" and a **WOAH certificate for FP appointments** to formalize their tasks and ensure they are recognized within their work duties.

2. **Enhance surveillance capacity and implementation** ○ 9 votes

Participants prioritised **regional training** on surveillance design, epidemiology, statistical analysis, and risk-based sampling through collaborative efforts between WOAHA, NACA, and SEAFDEC, standardizing **surveillance guidelines**, and training on **disease outbreak investigations and field surveillance**.

3. **Prevent the spread of diseases** ○ 9 votes

This involves implementing **pre-screening** for imported aquatic animals by government laboratories and ensuring better **maintenance of farm equipment** (e.g., nets, buckets, boats) to prevent contamination.

4. **Building a resilient Aquatic Animal Health workforce** ○ 9 votes

This multifaceted approach includes developing **standardised training manuals**, creating **certification programs** for aquatic animal health experts and vets, and establishing practical, hands-on tertiary-level training courses.

5. **Train local officers by experts** ○ 7 votes

There is a strong call for experts from WOAHA and other international organizations to provide direct training to local officers to bridge the capacity and infrastructure gap.

6. **Strengthening governance and institutional coordination** ○ 7 votes

Solutions here include establishing **national taskforces** supported by WOAHA, facilitating **departmental exchange programs**, and holding **more frequent (yearly) WOAHA Focal Point meetings** to strengthen regional networks and governance/institutional coordination.

Although **AMR/AMU** in aquaculture did not appear as a regional priority, several of the highest ranked actions within the theme focused on **enforcing regulations** to control sales of antimicrobials, **building capacity for fish health services** to reduce inappropriate antimicrobial use, and improving **industry education** on responsible antimicrobial use, disease prevention, alternatives to antimicrobials, and biosecurity measures.

Detailed outputs

Group 1: Surveillance, diagnostic, laboratory capacity

Facilitators: Nick Moody, Maho Urabe

Name(s) of rapporteur(s): Kaent Immanuel Uba, Dianne Peralta, Jason Albances, Terumi Goto

Challenges (Member-level / Regional)	Proposed solutions
SURVEILLANCE Limited resources and sustainability ○7 votes - Lack of funding for epidemiology, high cost of active surveillance, sustainability of trained personnel, and increasing workload due to expanding disease lists. Weak surveillance implementation and design ○7 votes - Misunderstanding of surveillance design (no standardized protocol: example number of samples ideal for statistical purposes), poor adherence to sampling strategies, geographically dispersed surveillance systems, lack of follow-up actions from surveillance results, and limited capacity building for quality control. Reporting, transparency, and stakeholder engagement ○4 votes - Under-reporting of diseases, farmer reluctance to participate, lack of transparency due to fear of trade restrictions, and weak passive surveillance. Sample and regulatory challenges ○4 votes - Material Transfer Agreements (sending of samples), transportation and sample integrity, zoning procedures, confidentiality and regulatory barriers affecting surveillance	Strengthening sustainable surveillance systems Enhance surveillance capacity and implementation ○9 votes - Conduct regional training on surveillance design, epidemiology, statistical analysis, interpretation of surveillance data, and risk-based sampling (WOAH/NACA/SEAFDEC) - Develop standardized surveillance guidelines and sampling protocols - Conduct training on disease outbreak investigation and field sampling Improve surveillance systems and reporting ○2 votes - Establish mechanisms for rapid sharing of information on emerging diseases - Strengthen regional disease reporting and communication systems - Regularly review and update surveillance guidance and manuals Increase stakeholder participation ○2 votes - Train farmers on disease recognition, sample collection, and sample submission - Promote pond-side/point-of-care diagnostics

activities. • Data management and information systems ○ 1 vote ○ Lack of integrated information management systems, poor data standards, limited accessibility, and interoperability of surveillance data. • Updating the number of notifiable diseases ○ Update list of diseases (listing & de-listing)	○ Expand access to government diagnostic laboratories
DIAGNOSTICS • Limited access to diagnostic resources and reference materials ○ 10 votes ○ Lack/availability of positive controls, no reference materials for emerging diseases, limited reagents, primers, equipment, limited diagnostic capacity • Lack of standardized and validated diagnostic methods ○ 2 votes ○ Lack of standardized protocols, outdated and inconsistent SOPs, need to re-optimize conventional methods, diagnostic manuals covering only limited diseases • Diagnostic quality assurance and test reliability ○ 2 votes ○ False positives, false negatives, troubleshooting weak positives, cross-contamination, and cases that don't meet the definition of suspect or confirmed cases in some diseases. • Limited technical support and reference laboratory collaboration ○ 2 votes	• Improving access to diagnostic and laboratory services ○ Strengthen diagnostic capacity from field to laboratory ○ Implement "Pond-to-Laboratory" training programs integrating farmers, field officers, and laboratories ○ Standardize sample collection, transport, and laboratory communication systems ○ Conduct diagnostic simulation exercises and practical laboratory training ○ Improve laboratory quality and accessibility ○ Expand technical capacity-building programs. ○ Promote laboratory quality assurance and ISO accreditation ○ Increase investment in laboratory infrastructure and diagnostic equipment • Advocate for greater national prioritization of aquatic animal health alongside terrestrial animal health ○ 2 votes ○ Facilitate regional sample movement ○ Develop regional Material Transfer Agreements (MTAs) and harmonize permits for cross-border sample transfer ○ Training on proper handling of samples

○ Limited access to reference laboratory experts, troubleshooting assistance, validated methods, regional collaboration (e.g., NACA, reference laboratories) • Governance and coordination of diagnostic services ○ 1 vote ○ Unclear roles and responsibilities between government and private laboratories	• Expanding technical capacity building and quality assurance ○ Strengthen laboratory competency ○ Provide access to positive controls, standardized reagents, cell cultures, histopathology services, and reference materials ○ Deliver technical training on diagnostic methods and troubleshooting ○ Organize regional proficiency testing and inter-laboratory comparisons
LABORATORY CAPACITY • Limited laboratory diagnostic capacity and infrastructure ○ 7 votes ○ Diagnostic capabilities at grassroots level in developing countries; limited diagnostic capacity following WOAHA standards; shortage of laboratory capacity; limitation of laboratory equipment; need for more disease testing as WOAHA-listed diseases increase • Shortage and retention of skilled laboratory personnel and technical expertise ○ 7 votes ○ Shortage of laboratory staff; retain skilled laboratory workers; limitation of experts; no technical experts to conduct tests • Need for quality assurance, proficiency testing, and laboratory accreditation support ○ 3 votes ○ Access to proficiency testing; continued participation in proficiency testing programs; difficulty attending laboratory capacity/proficiency programs; maintaining quality control of PCR machines • Need for technical guidance and harmonization with WOAHA standards ○ 1 vote	• Harmonize diagnostic standards ○ 2 votes ○ Regular update of WOAHA diagnostic manuals and standardized protocols ○ Promote harmonized diagnostic methods and quality management systems across laboratories • Enhancing collaboration with WOAHA reference centers and regional laboratories ○ Strengthen regional laboratory collaboration ○ 1 vote ○ Establish regional laboratory networks for finfish, crustaceans, and mollusks ○ Facilitate rapid sharing of surveillance data, diagnostic protocols, expertise, and laboratory resources ○ Promote collaborative research and coordinate responses to emerging diseases • Improve communication with WOAHA Reference Centers ○ Hold regular virtual meetings and webinars between WOAHA Reference Centers, regional laboratories, and National Focal Points ○ Share updates on emerging diseases, new diagnostic methods, and best practices ○ Strengthen ongoing technical support and mentoring from WOAHA Reference Centers.

○ Test performance issues requiring advice from WOA H Reference Laboratories; limited diagnostic capacity following WOA H Manual; need for technical guidance from WOA H experts • Supporting laboratory infrastructure for aquatic animal health ○ 1 vote ○ Lack of proper quarantine facilities for aquatic animals; laboratory support for disease surveillance and epidemiological investigations	
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Group 2: Reporting, RAAD, and use of WAHIS information

Facilitators: Eduardo Leño, Anastasiya Popova

Name(s) of rapporteur(s): Anthony Donahue

Challenges (Member-level / Regional)	Proposed solutions
Capacity and resource constraints ○ 19 votes • Lack of diagnostic capacity. • Time restrains, setting priorities • Lack of surveillance data (information on which diseases are present). • Limited human/labor resources, lack of trained professionals • Workload Priorities. Skills, knowledge and awareness gaps in WAHIS ○ 15 votes • Lack of knowledge and confidence in WAHIS reporting • WAHIS technical/login issues. • History of reporting incorrectly (e.g. positive cases based on clinical signs), affecting current OCC (never reported vs absent) • Wrong reporting based on clinical signs (not lab confirmed).	Twinning, PVS, Lab accreditation ○ 0 vote • Role of reference labs: twinning, promote, closer collaboration • Collaboration with reference labs • Aquatic PVS • Provision of test kits to farmers • Lab accreditations (e.g. university labs) Training WAHIS & ANIMUSE, 1:1, group ○ 0 vote • WAHIS 1:1 training/ individual support • Joint face to face training, opportunities for AFPs meeting and working together with other FPs (notifications, communication) • WAHIS support desk

• Forgetting to submit reports in WAHIS and RAAD • Lack of knowledge in changes in reporting procedures. • Confusion regarding Code changes. • Lack of knowledge about ANR/AMU, ANIMUSE platform • Delay in reporting due to specificity of pathogens. Communication and collaboration barriers: ○ 15 votes • Internal communication and collaboration of data sharing. • Administrative processing time • Responsible transparency. • Communication difficulties. • Lack of communication between departments. • Aquatics vs terrestrial (not important enough?). Fear and consequences of reporting ○ 10 votes • Fear of reporting and subsequent underreporting from local farmers. • Trade barriers (country fears) [Connects to farming]. • Fear of consequences from management. • Lack of relationships with farmers. • Lack of awareness. • Lack of knowledge and understanding of WAHIS by public/trade partners. • Not reporting absence of disease. Role clarity for Aquatic Focal Points ○ 1 vote • Lack of clear role of an AFP in terms of responsibility of reporting aquatic disease data (between AFP and NFP, who does what?). • Why do AFP not have training in reporting?	• If a training in WAHIS is made, ANIMUSE training should be included as well. • Local notification system helps to get information from farm level to the FPs Who are other FPs? (notifications, communication) ○ 1 vote • Delegate's & communication FP's responsibility to help know who other FP's are • Internal meetings with all FP's can be organised Raising awareness on benefits of reporting and consequences of not reporting, data collection ○ 0 votes • Education campaign for farmers. Raising awareness of benefits of reports and consequences of not reporting (from farmers to delegates/competent authority) ○ Communication of good examples (case studies of how things worked well/success stories) • WOAHA created video on benefits of reporting (reporting absence of disease/negative reporting is a good thing) and consequences of not reporting (delay in reporting diseases can allow for disease to spread to give to farmers to promote reporting) • Know/be informed of ways/organizations to report diseases to • Appointing local FP responsibilities for collection of data from farms to AFP Role of FPs & Delegates (certificates, TORs) ○ 16 votes • Update TOR (reporting, responsibilities) for FPs and delegates and communicate also through WAHIS support desk • Creating welcome package for FP's
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• What is the structure: Delegate → NFP → AFP or Delegate → AFP, NFP? • Nomination of AFP (appropriate process). • High Focal Point turnover.	• To create a WOAHA certificate for FP appointments. FP activities are not in the ToR for work of the appointed person. Certificate can help with the task making it official.
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Group 3: Biosecurity, zoning & compartmentalization, trade

Name(s) of rapporteur(s): Anik Talukdar and Tsunekawa Koki

Facilitators: Ana Rita Sancho Silva, Saraya Tavoranpanich, Karma Rinzin

Challenges (Member-level / Regional)	Proposed solutions
Biosecurity & zoning • Water management among countries (especially in shared river) challenging defining zones ○ 10 votes • Biosecurity with infectious agents in ornamental fish trade ○ 9 votes • Contamination in shipping / international transportation • Contamination in domestic transportation • Water management between wild and aquaculture farm (e.g cage culture in river); Contamination from wild animals (aquatic animals, birds, mammals, etc.) ○ 4 votes • Contamination in natural disasters (especially flooding) Lacking capacity or capability • Lack of Lab capability (management, absence of specific lab); Lack of diagnostic capacity ○ 1 vote • Capacity building of staff / focal point • Lack of quarantine facility & Skills ○ 2 votes • Limited border control measures ○ 2 votes • Limited farmers awareness ○ 5 votes	For biosecurity in open and shared aquatic systems • Strengthen communication and information sharing ○ between country and country ○ via WOAHA/Focal point • Improve awareness ○ 2 votes ○ for small farmers by government / international experts' team (not only foreign experts, also domestic experts) ○ by continuous advice • Prevent the spread of diseases ○ 9 votes ○ pre-screening for imported aquatic animals by the gov. Lab. ○ by maintaining equipment in farms (e.g. nets, buckets, boats...etc.) For ornamental fish trade biosecurity • establish traceability guideline • ensure quarantine system by gov • create trade policy in national level • Why: some nations don't have capacity to make strategy • Who: worldwide trade authority

• Difficulty in applying biosecurity to small scale farmers ○ 2 votes • No implementation of legislation • Lack of Control of zoonotic diseases ○ 2 votes • Limitation of data accessibility among countries ○ 4 votes • Lack of notification of disease information for other countries • Limitation of location mapping and data ○ 2 votes • Difficult to understand the difference between zone and compartment: ○ 1 vote	For capacity and infrastructure gap • Train local officers by experts (e.g. WOAHA, other organizations) ○ 7 votes
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Group 4: Other challenges & emerging issues

(eg, Emergency response, Emerging pathogens, Production systems, AMR/AMU, Institutional challenges, Climate & environment, Others)

Facilitators: Mario Ignacio Alguerno, Kim Hyoung Jun

Name(s) of rapporteur(s): Yuasa Hajime, Saputra Anugerah, Terumi Goto

Challenges (Member-level / Regional)	Proposed solutions
• Competing priorities for resources ○ 4 votes • Cultural barriers, Stakeholder engagement buy-in ○ 3 votes • Accessibility to aquatic health service ○ 7 votes • Shortage of fish health professional or veterinarians in aquatic animal ○ 8 votes • Traceability aquatic product ○ 3 votes • Climate change, unpredictability climate difficult to prepare landscape change, emergency of pathogens ○ 10 votes • Early detection of emergency issues and confirmation references contribute laboratory ○ 11 votes • Institutional gaps, duplication and responsibility • Capacity building and training for farmers and official ○ 11 votes	• Building resilient AAH workforce ○ 9 votes ○ Standardized training manuals for different regions starting from the basics of farming and biosecurity ○ Create certify programs for aquatic animal health experts and aquatic vet ○ Regional exchange programs on the aquatic health and diseases ○ Develop workforce plan → capacity-education programs in AAH ○ Tertiary level/ post -high school course to train up future workforce- focus in on practical hands-on training with less focus on academia

• Production growth, lack of supplier or supply chain and intermediate, legislation emergency of disease • Diversification of culture system, small scale and different species, disease emergency.	• Preparing for emerging disease risks ☒ 2 votes ○ Train more histopathologists ○ Preparing standard procedures for various disease outbreaks (emergency) ex) AI ○ Realtime simulation exercises intra-regional supported by WOAHA ○ Webinar on latest / emerging diseases information (recorded videos, materials) ○ Process/ system for the reporting should be user friendly and efficient ->develop an app information system for farmers ○ Procedure for preparing, preserving and submitting samples in cases of potential emerging disease ○ Procedure for outbreak investigation- recognizing potential emerging disease early (epidemiology) • Strengthening governance & institutional coordination ☒ 7 votes ○ Facilitating exchange programs b/w departments ○ Establish national taskforce supported by WOAHA ○ Strengthening regional collab through existing network ie. ANNAHC in ASEAN, NACA, SEAFDEC ○ More collaboration and coordination of data sharing ○ Yearly (more frequent) WOAHA focal point meetings to strengthen regional network + governance/ institutional coordination • Supporting countries to adapt to changing production systems. ☒ 2 votes ○ Adoption of climate resilient farming techniques ○ Sharing success experiences webinars
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	○ Genetic improvement of aquatic species ○ Introduce / encourage short-term growing species ○ System that is less consumption of water/ resource ○ EIA: To require an EIA before setting up a new farm in a new site, or the opening of a new farm / production area.
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Group 5: AMR/AMU in Aquaculture

Facilitators: Sophie St. Hilaire, Pondpan Suwanthada

Name(s) of rapporteur(s): Anthony Donahue, Yuasa Hajime

*Insights on AMR/AMU from Day 1 – Session 3: Mapping regional challenges were transferred to this table.

Challenges (Member-level / Regional)	Proposed solutions
Summary of commonly repeated AMR/AMU topics • Standardization & guidelines (breakpoints, AST, standards) • Limited surveillance systems & data gaps • Laboratory & diagnostic capacity • Cross-sectoral collaboration (One Health) • Antimicrobial use reduction & alternatives • Governance & policy (legislation, action plans) Round 1 • Lack of standardized AMR diagnostic methods and guidelines • Weak AMR surveillance systems and implementation • Limited laboratory diagnostic capacity and rapid testing • Insufficient AMR knowledge, data, and evidence generation • Poor cross-sectoral collaboration (One Health approach) Round 2 • Lack of AMR standards for fish pathogens.	• Enforce regulation to control sales ○ 4 votes • Capacity building for fish health services to reduce misuse ○ 4 votes • Establish surveillance for AMU to help target mitigation ○ 2 votes • Educate industry on ○ 3 votes ○ AMU ○ Disease prevention ○ Alternatives to antimicrobials ○ Biosecurity • Explore more alternatives/disease prevention strategies

• Lack of standardization for antimicrobial susceptibility test (AST) (different standards); • AST to AMR: (1) clinical breakpoint for some pathogens; (2) need more rapid tests for rapid response. • Gaps in code on AMR surveillance guidance. • No information about AMR, surveillance, and planning. • More analysis needed to understand relationships between pathogens & AMU. • No collaboration between fish and livestock pathogen AMR framework and surveillance. • National Action Plan has not been implemented. • No international standards for UIC standards. • Breakpoint for many aquatic pathogens. Round 3 • In the absence of trade restrictions or penalties for AMR detection there is little empathy towards reducing antimicrobial use • Alternatives to antibiotics (especially for larval stage crustacean) • AMR can spread through birds and the environment (bioaccumulation) • AMU/AMR in ornamental fish trade • Missing disease screening in country transportation system • Emphasis in reducing unnecessary antibiotic use • Non-reported/documented AMR Round 4 • Legislation AMR/AMU	
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