

Technical Seminar on Aquaculture Biosecurity: Understanding Antimicrobial Resistance (AMR) in Aquaculture

- Purpose** To raise awareness, share experience and knowledge on AMR in aquaculture for better understanding including challenges and priority issues
- Process** 13-14 April 2021 | 14.00-16.00 hours GMT+2
Two hours/session | 10 min/presentation
Poll | Q & A through chat board | General discussion
- Participants** Expert presentations
Open to public | Webcast

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FAO's thirty-ninth Conference (June 2015) adopted Resolution 4/2015 recognizing that AMR poses a serious threat to public health and sustainable food production, and that an effective response should involve all sectors of government and society. To support the implementation of the resolution, FAO developed an Action Plan on AMR which addresses four major focus areas:

1. Improve awareness on AMR and related threats
2. Develop capacity for surveillance and monitoring of AMR and AMU (antimicrobial use) in food and agriculture
3. Strengthen governance related to AMU and AMR in food and agriculture
4. Promote good practices in food and agricultural systems and the prudent use of antimicrobials.

FAO's Fisheries Division has highlighted AMR in aquaculture as a critical issue. It is well understood that antimicrobials are often important to the implementation of effective biosecurity systems in aquaculture. Treatment failure, however, can result in significant production losses and socioeconomic impacts on livelihoods and food security. FAO's *Code of Conduct for Responsible Fisheries* (CCRF) emphasizes the need for Member Countries to encourage the prudent and responsible use of veterinary medicines in farmed aquatic populations. They emphasize, among the guiding principles, that responsible use of veterinary medicines in aquaculture requires collaboration among all stakeholders and a strong commitment to governance, awareness, best practices, surveillance and research, including monitoring of AMR, tracking of antimicrobial usage (AMU), assessing risk in different settings and evaluating strategies to reduce AMR and maintain efficacy of antimicrobial agents. FAO's new initiative, the Progressive Management Pathway for Improving Aquaculture Biosecurity (PMP/AB), which focuses on assisting countries to achieve sustainable biosecurity and health management systems, also addresses the issue of AMR. It is essential that governments, international organizations, academe and private sectors work together towards mitigating the impact of AMR on aquaculture systems and the aquatic environment to safeguard health of aquatic organisms and public health. To effectively do so, the drivers and pathways for the emergence and spread of AMR in aquaculture should be clearly understood prior to the development of management strategies for this global issue.

There are three basic questions pertaining to AMR in aquaculture:

- ▶ What are the sources of AMR genes in aquaculture and the aquatic environment?
- ▶ What are the drivers of AMR development in aquaculture?
- ▶ How can AMR development in aquaculture be reduced or prevented?

This two-day webinar, jointly organized by FAO and the Norwegian Agency for Development Cooperation (NORAD) under the project GCP/GLO/979/NOR Improving Biosecurity Governance and Legal Framework for Efficient and Sustainable Aquaculture Production, will provide some further perspective on the above questions and increase our understanding of AMR issues in aquaculture through the sharing of expert knowledge and country level experience.





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PROGRAMME

| SESSION 1 | 13 April 2021 14.00-16.00 hours GMT+2 |
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| 14.00-14.15 | <p>Welcome <i>Dr Magnus Petersen</i> Adviser Section for Knowledge Programmes The Knowledge Bank, NORAD</p> <p><i>Dr Audun Lem</i> Deputy-Director Fisheries Division, FAO</p> |
| 14.15-14.25 | <p>Understanding the source of AMR in aquaculture <i>Dr Iddya Karunasagar</i> Senior Director, International Relations Nitte University, India</p> |
| 14.25-14.35 | <p>Development and implementation of national action plans to curb AMR in Chinese Aquaculture <i>Dr Aihua Li</i> Principal Investigator of the State Key Laboratory of Freshwater Ecology and Biotechnology, Institute of Hydrobiology, Chinese Academy of Sciences</p> |
| 14.35-14.45 | <p>Singapore's efforts in aquaculture biosecurity and AMR <i>Dr Zhan Pei Heng</i> Singapore Food Agency, Singapore</p> |
| 14.45-14.55 | <p>Laboratory determination of susceptibility to antibiotics of bacteria isolated from aquatic animals <i>Dr Peter Smith</i> Scientist Department of Microbiology, School of Natural Science, National University of Ireland</p> |
| 14.55-15.05 | <p>Correct diagnostics: prerequisite for prudent and responsible antimicrobial administration <i>Dr Snježana Zrnčić</i> Head, Laboratory for Diseases of Fish and Mollusks at Croatian Veterinary Institute</p> |
| 15.05-15.10 | Poll |
| 15.10-15.20 | <p>AMR and the environment: what we know and what we don't know <i>Dr David Verner-Jeffreys</i> Scientist, UK Centre for Environment, Fisheries and Aquaculture Science</p> |





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| 15.20-15.30 | Genetic mechanisms of AMR in aquaculture pathogens <i>Dr Mark Lawrence</i> Professor, Mississippi State University College of Veterinary Medicine, USA |
| 15.30-15.40 | OIE's work on AMR in aquatic animals – international standards <i>Dr Dante Matéo</i> Chargé de Mission with focus on aquatic animals Antimicrobial Resistance and Veterinary Products Department, OIE |
| 15.40-15.45 | Poll |
| 15.45-16.00 | Discussion and end of Day 1 |
| SESSION 2 | 14 April 2021 14.00-16.00 hours GMT+2 |
| 14.00-14.05 | Welcome to Day 2 |
| 14.05-14.15 | Thailand national action plan on antimicrobial use and AMR in aquaculture <i>Dr Thitiporn Laoprasert</i> Scientist, Aquatic Animal Health Research Institute Thailand Department of Fisheries |
| 14.15-14.25 | Philippines national action plan on AMR in aquaculture <i>Dr Sonia Somga</i> Chief, Fish Health Section Philippine Bureau of Fisheries and Aquatic Resources |
| 14.25-14.35 | The Norwegian approach to AMR in aquaculture <i>Dr Edgar Brun</i> Head, Epidemiology Section Director, Department of Aquatic Animal Health and Welfare Norwegian Veterinary Institute |
| 14.35-14.45 | Risk of AMR development and pathogen transfer in global transport of ornamental fish <i>Dr Olga Haenen</i> Head, National Reference Laboratory for Fish, Shellfish and Crustacean Diseases, Wageningen Bioveterinary Research |
| 14.45-14.55 | Avoiding situations that allow development of bacterial virulence and AMR in cage farming of tilapia in Africa <i>Dr David Huchzermeyer</i> Veterinary Specialist, Research Associate (Rhodes University) and Extraordinary Associate Professor (University of North West), South Africa |
| 14.55-15.00 | Poll or break |



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| 15.00-15.10 | <p>Emerging trends in AMR in aquaculture: review of governance frameworks and relevant literature <i>Dr Andrea Caputo</i> Molecular Microbiologist and AMR Specialist Senior Research Scientist, EMPE Diagnostics, Sweden</p> |
| 15.10-15.20 | <p>Responsible and prudent use of antimicrobials in aquaculture: Chile experience <i>Dr Alicia Gallardo</i> Undersecretary of Fisheries and Aquaculture Chile</p> |
| 15.20-15.30 | <p>Regional AMR Monitoring and Surveillance Guidelines Volume 3: Monitoring and surveillance of AMR in Bacteria from Aquaculture <i>Dr Mary Gordoncillo</i> Regional Project Coordinator, Regional Office for Asia and the Pacific, FAO</p> |
| 15:30-15:40 | <p>Residues of Veterinary Drugs Detected during Import Inspection of Aquaculture Products (2016-2019) <i>Dr Giulia Loi</i> Consultant, Fisheries Division, FAO</p> |
| 15.40-15.50 | <p>Tripartite and FAO Action Plan on AMR 2021-2025 <i>Dr Alejandro DoradoGarcia/Dr Jing Xu</i> Animal Production and Health Division, FAO</p> |
| 15:50-16:05 | <p>General Discussion</p> |
| 16.05-16.10 | <p>Closing <i>Dr John Ryder</i> Senior Fishery Officer Fisheries Division, FAO</p> |

