

Workshop #1

Environmental Dimensions of AMR in Asia-Pacific LMICs

Part 1: Priority research needs in Asian LMICs

Part 2: Regional Guideline for AMR surveillance
in the Animal Farm Environment

Jointly organized by:

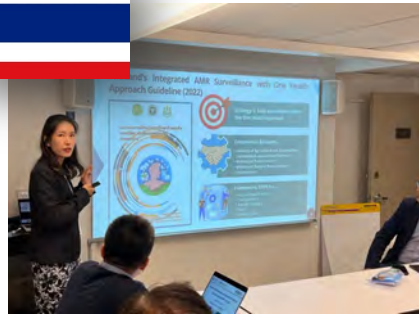


EnD-AMR-Asia



Food and Agriculture
Organization of the
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Workshop #1: Part 1 - Frontlines on environmental AMR studies in Asian LMICs



Dr. Kwanrawee Sirikanchana
Chulabhorn Research Institute, Thailand

- Fostering collaboration in Research, Funding, and Policy.
- **AMR surveillance framework in Thailand:** resource allocation, targeted bacteria, genetic monitoring, stakeholder roles, antibiotic consumption, and continuous data updates.



Dr. Sulfikar
Universitas Negeri Makasar, Indonesia



- **High prevalence of AMR** (pneumonia and sepsis, 60% resistance to cephalosporins)
- **Misuse and overuse of antimicrobials**
- Limited diagnostic infrastructure and human resources,
- Lacking of enforcement of the policies (gap between ministries)



Dr. Bing Li
Tsinghua University, China

- **ARGs and their mobility in Environment-Human-Animal**
- Constructing analysis pipelines
- Fostering collaboration networks in all sectors
- Conducting **AMR risk assessments**



Dr. Toru Watanabe
Yamagata University, Japan

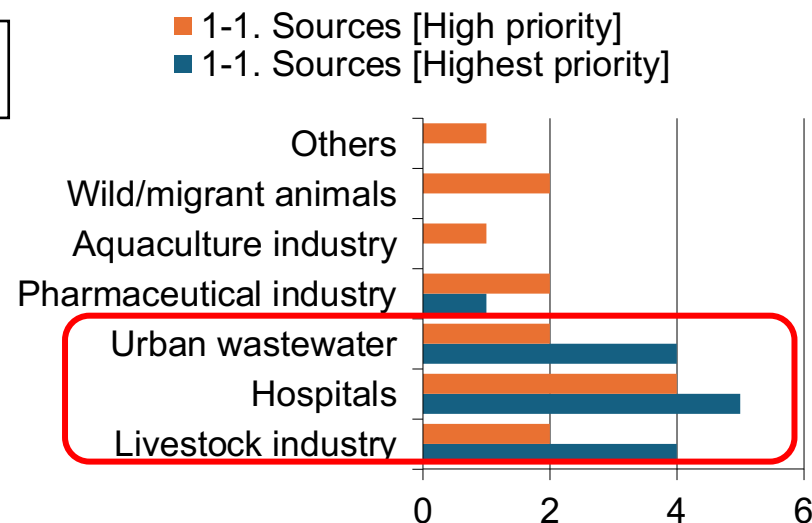
- **High AMR in Floating house areas** - inadequate sanitation infrastructure (direct disposal of human and animal waste into the surrounding water).
- **Seasonal change** in Sanitation conditions - distinct changes in water levels between low and high seasons

WS #1: Part 1 – Online Poll on Research Needs in Asian LMICs

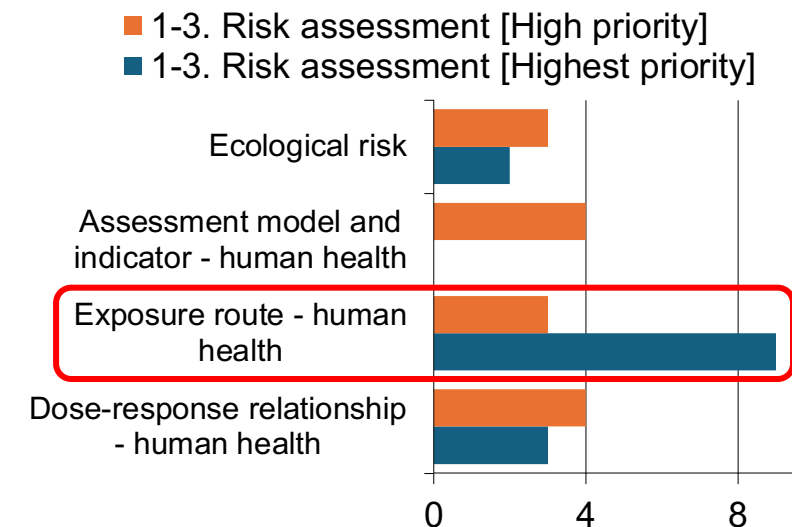


[Q1] What targets need further research and understanding particularly in Asian LMICs?

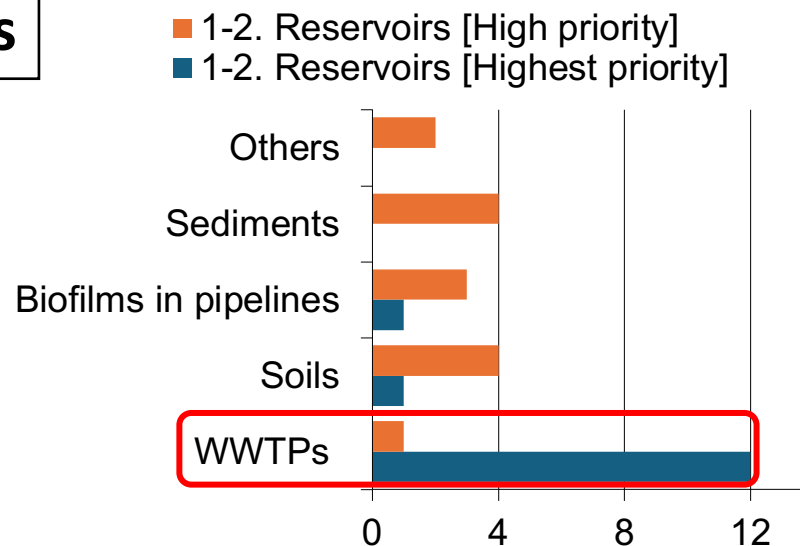
Sources



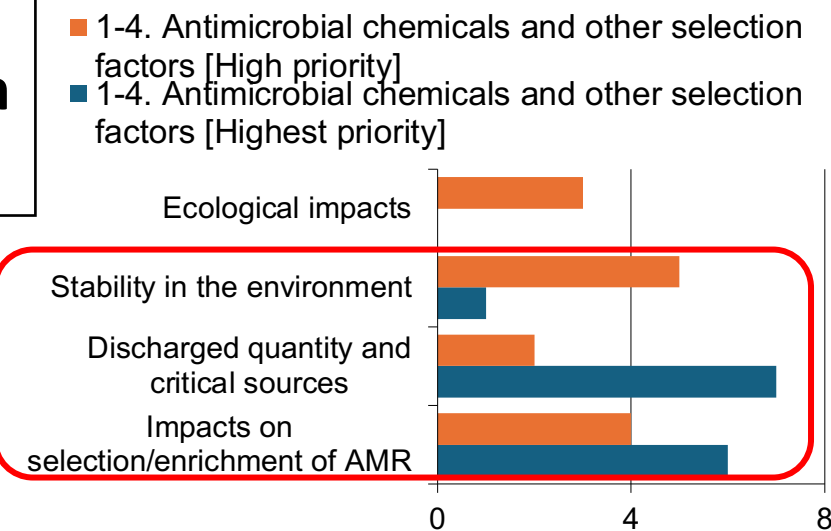
Risk Assessment



Reservoirs



Antimicrobials & other selection factors



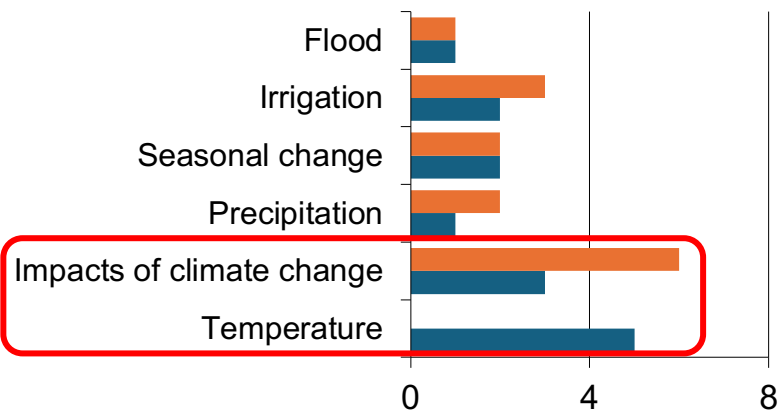
WS #1 : Part 1 – Poll on Research Needs in Asian LMICs



[Q2] What factors or local conditions affecting AMR in the environment need further research and understanding particularly in Asian LMICs?

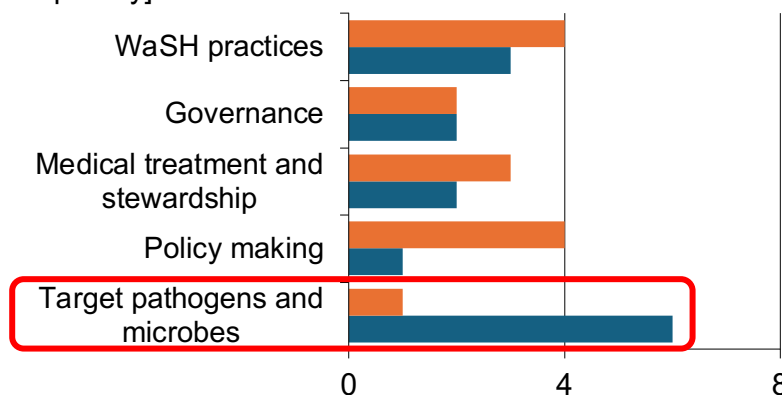
Climate & seasons

- 2-1. Climate and seasons [High priority]
- 2-1. Climate and seasons [Highest priority]



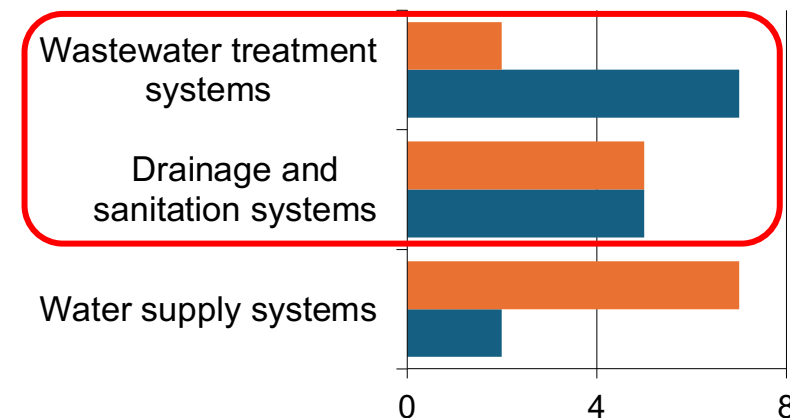
Clinical & socio-economic

- 2-2. Clinical and socio-economical conditions [High priority]
- 2-2. Clinical and socio-economical conditions [Highest priority]



Water supply & sanitation

- 2-3. Water supply and sanitation [High priority]
- 2-3. Water supply and sanitation [Highest priority]



[Q1] x [Q2] = Priority Research Needs

- Discharge from wastewater, hospitals, livestock
- WWTPs as AMR reservoirs
- Exposure route (human) in risk assessment
- Load of antimicrobials & pollutants and their selection impacts



- Impacts of climate change, temperature
- Concerned pathogens & microbes
- Conditions of WWT systems, drainage/sanitation

WS #1 : Part 1 – Panel Discussion: Research Needs in Asian LMICs

➤ Researches for actions are prioritized in Asian LMICs

➤ Data collection with **comparable indicators** (e.g. *E. coli*) for understanding of locality

➤ **Climate change** causes broad impacts on AMR issues in Asian LMICs

- safe water availability
- patterns of precipitation & **flooding** (which spreads sewage, animal wastes)
- geographical distribution of diseases

➤ We should sort out impacts of climate change on AMR issues in Asian LMICs.

➤ **Community-level water supply** needs attention

- Direct use of surface/groundwater
- Poorly-maintained household treatment

➤ **Use of existing stats on AMU** to identify AMR hotspots & vulnerable communities

- Modelling/simulation
- immediate actionable findings





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Workshop Part II: Consultation of Guideline for AMR MONITORING AND SURVEILLANCE IN ANIMAL FARM ENVIRONMENT

Workshop Report



Facilitators:

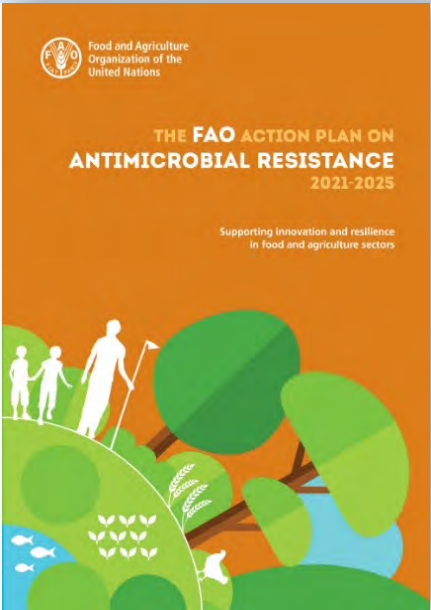
Muhammad Usman Zaheer, Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific

Roosmarijn Luiken, Utrecht University, Faculty of Veterinary Medicine, the Netherlands



FAO Action Plan on AMR

FAO Action Plan on AMR



Supporting innovation and resilience in food and agriculture sectors

Food and agriculture sectors, dependent livelihoods and economies are made resilient to the impacts of AMR

Strengthening **governance** and allocating **resources** to accelerate and sustain progress

Promoting **responsible use** to keep antimicrobials working



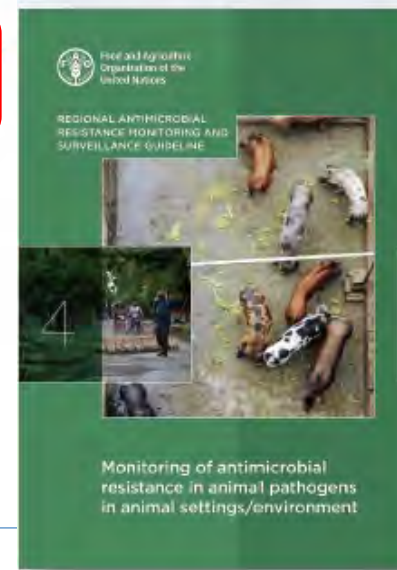
Increasing stakeholder **awareness** and **engagement** to foster change

Strengthening **surveillance** and **research** to support evidence-based decisions

Enabling **good practices** to prevent infections and control the spread of resistant microbes



COMING SOON



COMING SOON



Purpose of the guidelines and aim of workshop at EDAR

Guide countries on risk-based surveillance, for research and as an add-on to ongoing AMR surveillance in healthy terrestrial and aquatic animals

Protecting public health
through safe food

Protecting
occupational health

Protecting
the environment

- Learn from experience and expertise of participants EDAR AMR
- Receive feedback on priorities, expertise and implementation
- Lessons learnt to translate into future work
- Identify collaborators/ contributors



What happened at the workshop

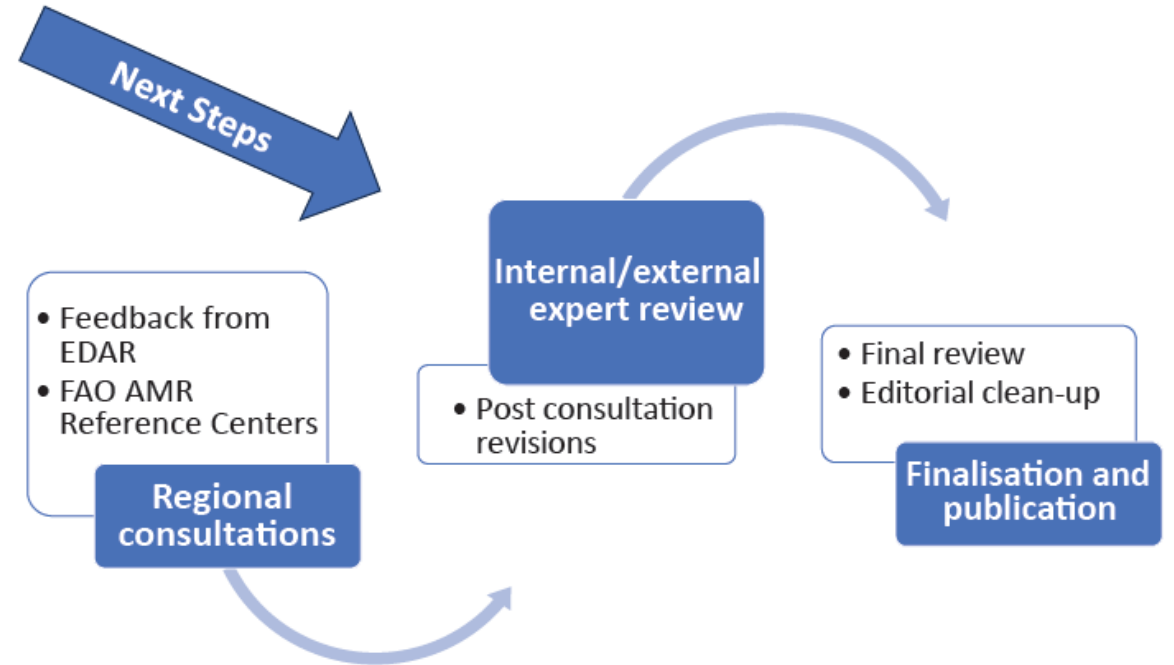
- ✓ Awareness on FAO's work in agrifood sectors
- ✓ New connections and collaborators
- ✓ Identification of ongoing work in the area, test methods, targeted pathogens and ARGs, data sharing and data use
- ✓ Deliberations on priorities, available expertise and implementation of surveillance in animal farm environment





Steps post EDAR

- 1 Preparatory and pre-drafting work
- 2 Scoping work on the needs of potential end-users
- 3 **Establishing a technical working group, first draft preparation**
- 4 Regional and bilateral consultations; draft refinement
- 5 Field-testing/piloting' draft refinement
- 6 Expert reviews and clearance process
- 7 Publication and operationalization



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Thank You

