FAO-ATLASS in the countries of the Eastern Europe, Transcaucasia and Central Asia Region (EECCA)

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FAO Assessment Tool for Laboratories and AMR Surveillance Systems (FAO-ATLASS)

- Map capacities of laboratories, laboratory networks and AMR surveillance in food and agriculture
- Describe links for multisectoral One Health AMR surveillance
- Help prioritize actions to improve at local, national, regional, and global levels over time

✓ Tool available in English, French, Russian, Spanish
✓ >180 laboratories and > 50 countries
✓ FAO-ATLASS assessors communities in Asia, Africa, Eastern Europe, Central and Latin America
**FAO-ATLASS general scope**

1. **Map national AMR surveillance systems in the food and agriculture**
   - Organization of AMR surveillance
   - Laboratory networks and analytical capacities and capabilities
   - Linkage with AMR surveillance in other sectors under One Health approach

2. **Assess systematically the AMR surveillance systems** under the food and agriculture sectors to
   - Monitor AMR surveillance capacities at national, regional, and global level over time
   - Provide evidence base for action and advocacy for strengthening AMR surveillance

**Mission objectives**

- Collect general information on the context of AMR surveillance and monitoring
- Describe the current national AMR surveillance system in place
- Assess the level of AMR surveillance, national networking, data collection, data management, data analysis, and information dissemination
- Assess national AMR laboratory testing capacities (personnel+ equipment and laboratory supplies)
- Collect related elements on residue testing and surveillance of antimicrobial use (AMU)
A surveillance system of AMR must rely on

- National policy and surveillance procedures (governance)
- Laboratories producing reliable/harmonized data
- A epidemiology unit for collection and analysis of AMR/AMU data
- Adapted communication to stakeholders (down and upstream)
- And sustainability to define indicators to be monitored over time and considered by different stakeholders

AMR surveillance system
The journey of AMR and AMU data

Overarching design

Data generation

Data reporting

Analysis

Findings / Evidence

Evidence-based POLICIES ON AMR MITIGATION

RESPONSIBLE AMU

GOOD PRACTICES

POLICY RECOMMENDATIONS

FAO-ATLASS - Overall structure

**ATLASS-Surveillance module**

Surveillance activity

Surveillance Evaluation Tool

AMR

- Filled once for each country
- Answers from several respondents

**ATLASS - Laboratory module**

Laboratory Activity

Laboratory Mapping Tool

AMR/Bacteriology

- Filled for each assessed laboratory
- Collection qualitative information
- Laboratory Mapping Tool (LMT) scores

For each country

- Description of national AMR Surveillance system, Progressive Improvement Pathway (PIP stage)
- Descriptive information and LMT scores compiled for all laboratories and for national AMR laboratory network, PIP stage
- Selection of the laboratories to be assessed
  - included in the national AMR surveillance system for food and agriculture
  - are foreseen to be included

- Sectors
  - Animal Health (terrestrial and aquatic)
  - Food safety
  - Plant
  - Environment

 FAO-ATLASS Progressive Improvement Pathway (PIP)

- For each laboratory
- For each AMR Surveillance area
  - Governance
  - Data collection and analysis
  - Data production network
  - Communication
  - Sustainability

- For the national AMR surveillance in food and agriculture sectors
**FAO-ATLASS in the EECCA**

- Armenia (22-26 October 2018)
- Belarus (3-7 December 2018)
- Kazakhstan (25-29 April 2022)
- Kyrgyzstan (19-23 November 2018)
- Tajikistan (11-15 March 2019)

**FAO-ATLASS Results – Data production network (laboratories)**

<table>
<thead>
<tr>
<th>ST13</th>
<th>Effective integration of competent laboratories in the AMR surveillance system</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST14</td>
<td>Level of the standardization of work between different laboratories involved in the AMR surveillance system</td>
</tr>
<tr>
<td>ST15</td>
<td>Relevance of diagnostic techniques</td>
</tr>
<tr>
<td>ST16</td>
<td>Technical level of AMR data management of the laboratory network</td>
</tr>
<tr>
<td>ST17</td>
<td>Frequency of data transmission to the epidemiology unit</td>
</tr>
<tr>
<td>ST18</td>
<td>Harmonization of data transmitted to the epidemiology unit</td>
</tr>
</tbody>
</table>

**Most common gaps**

- No formal national laboratory network for food and agriculture
**Most common gaps**

**Training of AMR detection**

Develop national SOP for AMR detection (protocols on bacterial species to be tested for AMR, panel of antibiotics to be tested, AST protocol, …)

**Funds to support AMR detection (equipment and reagents)**

**Use of Reference strains for Quality Control**

**Assurance/Proficiency Testing for AST**

Develop protocols for storage and archiving bacterial isolates for future studies/analyses (Diagnostic/bacteriology and Food Safety/microbiology)

Develop collaborations with laboratories working on AMR within and outside the country

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**Most Common Gaps**

**No routine AMR surveillance**

**No clearly identified structure/unit responsible for the AMR data collection and analysis**

**No designation and specifically trained experts on AMR data management (including AMR data analysis)**

**No national AMR surveillance strategy for food and agriculture**

- Identify target population (animal species, food commodities)
- Bacterial species
- Antibiotics to be tested
- Sampling frame
- Data management
**FAO-ATLASS Results – Governance**

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
<th>Sub category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>ST1</td>
<td>Existence of an operational structure representative of the partners involved in AMR surveillance under One Health approach (multi-sectoral working group(s) or coordination committee on AMR)</td>
</tr>
<tr>
<td>Governance</td>
<td>ST2</td>
<td>Development of a National Action Plan on AMR involving the food and agriculture sectors</td>
</tr>
<tr>
<td>Governance</td>
<td>ST3</td>
<td>Relevance of AMR surveillance objectives and indicators related to the country in food and agriculture sectors</td>
</tr>
<tr>
<td>Governance</td>
<td>ST4</td>
<td>Regulations on AMR surveillance organization in the food and agriculture sectors</td>
</tr>
<tr>
<td>PIP Stage Governance</td>
<td></td>
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</tr>
</tbody>
</table>

**Most Common Gaps**

- Develop/Approval/Endorsement the National Action Plan on AMR following One Health approach
- Identification of AMR surveillance objectives in food and agriculture relevant for the country
- Identify the national AMR focal point for food and agriculture (roles and responsibilities)
- Designation of the National Reference Laboratory for AMR for food and agriculture (roles and responsibilities)
- Allocation of funds to support AMR surveillance activities included in the National Action Plan for AMR

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**FAO-ATLASS Results – Sustainability**

<table>
<thead>
<tr>
<th>Sustainability</th>
<th>ST26</th>
<th>Adequacy of material and financial resources for the multi-sectoral working group(s) or coordination committee on AMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td>ST27</td>
<td>Adequacy of material and financial resources for the implementation of the National AMR action plan and multi-sectoral working group(s) or coordination committee on AMR</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST28</td>
<td>Adequacy of human, material, and financial resources for AMR data production (laboratory network) needs</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST29</td>
<td>Adequacy of human, material, and financial resources for AMR data collection and analysis (epidemiology) needs</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST30</td>
<td>Adequacy of human, material, and financial resources for communication needs</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST31</td>
<td>Regular advanced training for actors of the surveillance</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST32</td>
<td>Adequacy of material and financial resources for training</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST33</td>
<td>Development and validation of performance indicators for AMR surveillance system</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST34</td>
<td>Regular measurement, interpretation, and dissemination of performance indicators</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST35</td>
<td>Internal assessment carried out</td>
</tr>
<tr>
<td>Sustainability</td>
<td>ST36</td>
<td>Implementation of corrective measures</td>
</tr>
<tr>
<td>PIP Stage Sustainability</td>
<td></td>
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</tr>
</tbody>
</table>

**Most Common Gaps**

- Identification and allocation of financial resources to support provision of reagents, equipment and personnel for AMR data production (laboratory network) needs
- Identification and allocation of financial resources to support personnel for AMR data collection and analysis (epidemiology) needs
- Allocation of financial resources for communication activities
Common Challenges

- **Inadequate knowledge and infrastructure**
  - lack of trained laboratory personnel, protocols
  - scarcity/no access to quality assurance schemes or proficiency test

- **Inadequate allocation of human resources**
  - competing with other tasks

- **Inadequate financial resources**
  - limited availability of reagents and consumables

- **Lack of regulations, clear roles/responsibilities**
  - absence of national programme/mandate

- **Limited/Absence of coordination among relevant actors**
  - lack/limited collaboration
  - limited awareness and engagement of stakeholders

Conclusions

- Most countries have common gaps can be addressed regionally although no blanket solutions as they are context-specific
- Sustainability after external funding ends
Спасибо! / Thank You!

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