Setting the Context

Workshop on Development of Surveillance Framework for Antimicrobial Resistance in Food Animals and Environment

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Why this workshop?

- **Surveillance is critical to address AMR;** more so for us in India due to poor sanitation, high prevalence of infectious diseases, weaker laws and implementation, inadequate health systems and above all, growing industrial food production systems

- Countries are gearing up towards integrating all aspects of surveillance Human-Animal-Environment; **India too, has aggressively planned for surveillance in its NAP:2017-20**

- **CSE has been actively involved in NAP planning process and is a key stakeholder in its implementation;** we are well placed to contribute on both animal and environmental aspects of this issue

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Focus of this initiative

- AMR in animals (livestock, fish, poultry) and food (meat, eggs, milk)
- Antibiotic use in animals
- Antibiotic residues in food

- AMR in environment (waste from industry, farms, healthcare and households)
- Antibiotic residues in environment

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A successful Surveillance Program

- **Convergence** and **supplementation**: Coordination and integration of available infrastructure and resources and filling the gaps

- **Progressive** and **phased** approach: Ambitious in view of the complexity and burden of the problem, which is gradually scaled-up in view of local constraints and realities in India

- **Specific** and **comprehensive** with reference to sectoral context, roles and accountability, and timelines
Plan for **convergence** and **supplementation**

**Lab network of key stakeholders = 400+ labs**

<table>
<thead>
<tr>
<th>FSSAI Public labs</th>
<th>ICAR Institutes+ State Agricultural Universities</th>
<th>IITs+NITs</th>
<th>Central Universities</th>
<th>Central Pollution Control Labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>102 (≈30 animal and environment related)</td>
<td>63 (≈30 Veterinary Universities)</td>
<td>54 (23+31)</td>
<td>41 (≈25 central labs + 40 Regional labs + 6 Zonal labs)</td>
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</tbody>
</table>

**Additional possibilities:**

*Multiple labs in each university; Private labs; State fisheries and Animal Husbandry Dept. labs; ICMR, NCDC, other human health network and hospital labs; Engineering college labs other than IITs and NITs*

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**Progressive and phased approach**

GROUP 1: SURVEILLANCE OF ANTIMICROBIAL RESISTANCE IN THE ENVIRONMENT

<table>
<thead>
<tr>
<th>Surveillance framework for antimicrobial resistance in the environment</th>
<th>Phase I</th>
<th>Phase 2</th>
<th>Points to consider</th>
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<tbody>
<tr>
<td></td>
<td>(Small-medium term: 1-3 years)</td>
<td>(Long term: 4-5 years)</td>
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<tr>
<td>1. Geography of sampling</td>
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<tr>
<td>1.1 State(s)</td>
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<td></td>
<td>• Based on high drug producer states, production hubs, regional/seasonal disease, lab</td>
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<tr>
<td>(how many states, name of states)</td>
<td></td>
<td></td>
<td>infrastructure and consumption trends</td>
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<tr>
<td>1.2 District(s)</td>
<td></td>
<td></td>
<td>• Phase 2 to add more states/districts or continue with same number of states/districts</td>
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<tr>
<td>(how many in a state; for example top X in each state)</td>
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Specific and comprehensive

Across all animal farm sectors (dairy, poultry and aquaculture) and environment

1. Technical aspects

- Sampling
  - Sample locations
  - Sample types
  - Sample sizes
  - Sample frequency
  - Sample collectors

- Testing
  - Priority bacteria
  - Priority antibiotics

- Analysis
  - Bacteria isolation and characterization
  - AST methods
  - Antibiotic residue testing methods
  - Documentation
  - Reporting
  - Harmonisation

2. Accountability

3. Resources and funding

4. Timelines

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Plan for two days

Day 1:

• Best practices from experts on global guidance and country-level surveillance initiatives

• Sectoral experts from animal, human, and environmental domains share local context and existing surveillance efforts

Day 2:

• Experts deliberate in working groups and finalise framework for all components of AMR surveillance