Setting the Context

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

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Chandra Bhushan
Deputy Director
Centre for Science and Environment
Chandra@cseindia.org

Why this workshop?

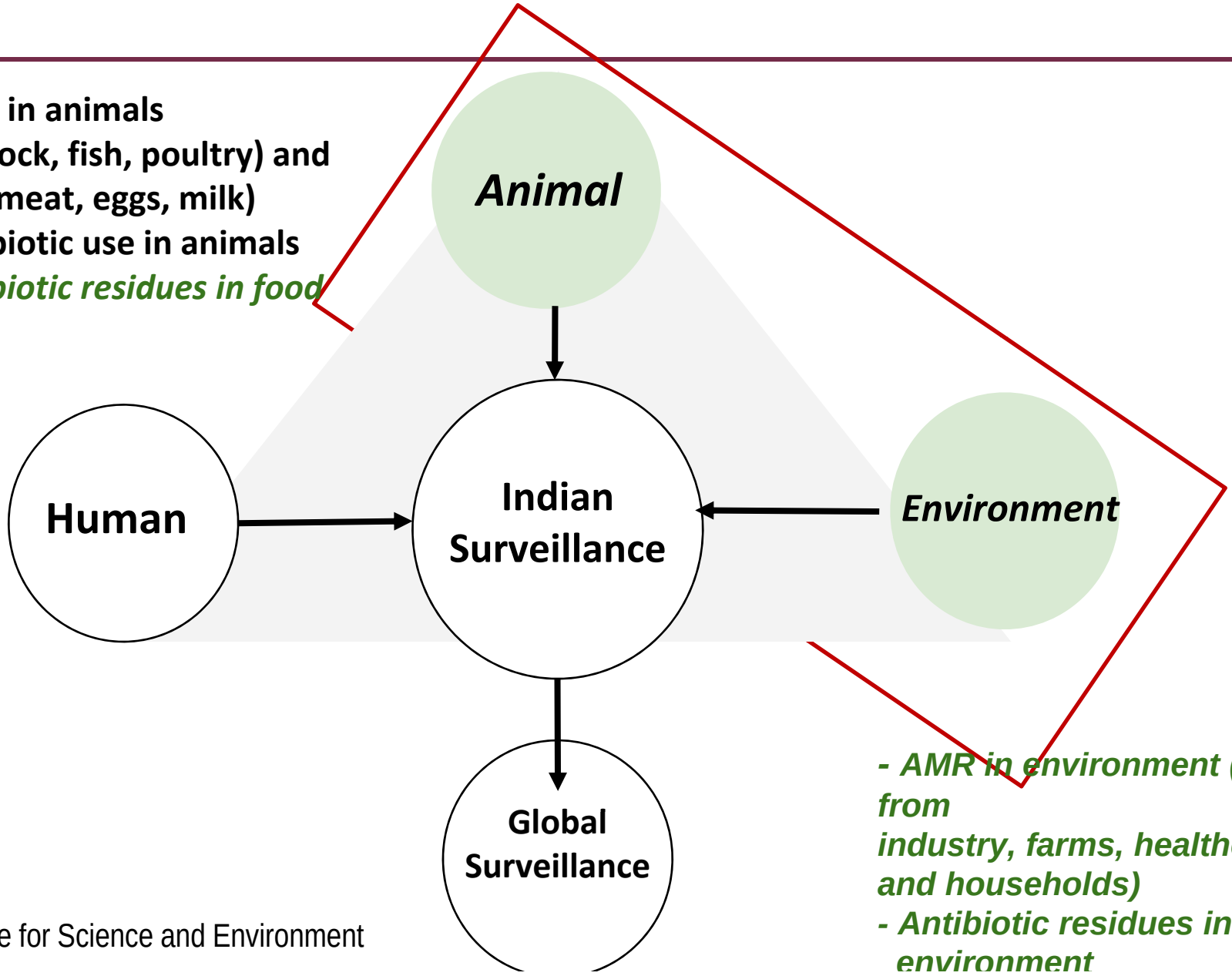
- **Surveillance is critical to address AMR;** more so for us in India due to poor sanitation, high prevalence of infectious diseases, weaker laws and implementation, inadequate health systems and above all, growing industrial food production systems

- Countries are gearing up towards integrating all aspects of surveillance Huamn-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

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***

A successful Surveillance Program

- **C*onvergence*** 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

FSSAI Public labs	ICAR Institutes+	State Agricultural Universities	IITs+NITs	Central Universities	Central Pollution Control Labs
72	**102** (~30 animal and environment related)	**63** (~30 Veterinary Universities)	**54** (23+31)	**41**	**70+** (>25 central labs +40 Regional labs+6 Zonal labs)

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

Progressive and ***phased*** approach

GROUP 1: SURVEILLANCE OF ANTIMICROBIAL RESISTANCE IN THE ENVIRONMENT

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

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

Plan for two days

Day 1:

- Best practises 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