Setting the context

MoHCC-CSE Workshop on Implementation Status and Reprioritization of Zimbabwe’s One Health Antimicrobial Resistance National Action Plan

September 28-29, 2020

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Centre for Science and Environment, India

- Centre for Science and Environment (CSE) is a public interest research and advocacy organisation based in New Delhi. It researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable
  - CSE has helped shape policies and build public awareness to bring change for over four decades; is recognized for its role in capacitating public institutions and regulatory agencies
  - CSE rated as one of the top global environment policy think tanks
  - CSE plays an important role as a southern think tank that articulates the perspectives and policies for the global south

https://www.cseindia.org/
Multiple modalities adopted at CSE

**Research and advocacy**

**Areas of work**
- Air pollution
- Climate Change
- Energy
- Environment Education
- **Food and Toxins**
- Sustainable habitat
- Municipal waste
- Water and Wastewater

**Communication for awareness**

**Down To Earth**
- English fortnightly on environment and development issues since 3 decades
- Hindi (national language) monthly editions introduced

**CSE website**
- An effective campaigning tool that allows instant outreach

**Pollution monitoring**
- **Environment Monitoring Laboratory** generates evidence through monitoring environment pollution and food contamination
- Independent information in public domain

**Education and Training**
- Building capacities across stakeholders from India and the developing world
- **Anil Agarwal Environment Training Institute**

**Knowledge Portal**
- **India Environmental Portal**
  - One stop shop for open access information on environment
Anil Agarwal Environment Training Institute
Nimli Village in Rajasthan (~100 kms from Delhi)

- A learning, innovation and training centre, designed to find appropriate and affordable solutions to some of the most pressing environmental problems of developing countries
- Water positive, energy efficient, zero-waste campus
- Schools of circular economy, climate change, water and waste, industrial pollution and governance, sustainable urbanization and air pollution, environmental communications
CSE’s footprint in Africa and South-Asia

CSE programme teams work in 13 countries in Africa and Asia
CSE’s key focus areas w.r.t Antimicrobial Resistance (AMR)

**Animal health and food-animal production**
- Intensive food production systems – poultry, fisheries, dairy
- Routine antibiotic use for growth promotion, disease prevention
- Use of critically important antibiotics (CIA) for humans

**Human health**
- Self medication
- Over prescription
- Over-the-counter sale
- Access vs excess issue

**Waste and Environment**
- Point and non-point sources
- Hotspots include waste from farms, factories, healthcare settings and sewage/water treatment plants
- Non-point sources include rivers etc.

**Crops**
- Routine use of antibiotics as fungicides in crops to prevent diseases
CSE’s work to help contain AMR in animal and environmental sectors in India

- 2010 (Honey)
- 2014 (Poultry)
- 2016 (Fish)
- 2017 (Poultry farms)
- 2017 (Fast food)
- 2019 (Crops)
- 2019 (Unused drug disposal)
- 2020 (Feed)
- 2020 (Fast food)
- 2020 (Dairy)
CSE’s work to support National Action Plan implementation in developing countries

- Strategic and operational guidance on development of National Action Plans (NAPs) in developing countries
- Member of the UN-InterAgency Coordination Group on AMR
- Global advocacy, contribution to expert technical consultations of inter-governmental organizations such as the WHO and FAO
Key issues linked to AMR-NAP implementation

- **Implementation of NAPs**
  - Sustained political will, support and dedicated funding
  - Multisectoral nature and complexity of the AMR issue

- **Animal sector**
  - **Routine use of antibiotics** for disease prevention and growth promotion
  - Use of CIs and last resort antibiotics
  - Growing **farm intensification** due to increased protein demand, limited focus on better animal husbandry
  - Awareness, enforcement, capacity issues in the sector

- **Environment sector**
  - Largely been a neglected agenda
  - Limited global guidance; UNEP only recently included
  - Limited national expertise and involvement
  - No environmental standards (e.g., residual antibiotics)
Example: More food is now grown in intensive settings; the very nature of such industrial production can create crisis

- **In high income countries**, most of food from animals is grown in intensive settings.
- **In low and middle income countries** intensification is growing due to animal protein demand.

- **Large-scale units** with **high stocking density** of animals/birds/fish.
- **Genetically selected breeds** for productivity (not disease resilience).
- Confined conditions; **limited focus on animal husbandry**.
- Dependence on **commercial feed**, inputs.
- Often **geographically concentrated**; vertically integrated by large players; involves contract farming.
- Industrial systems but considered agriculture; do not get required **regulatory attention**.
### Example: Structuring the environment sector w.r.t AMR is critical

<table>
<thead>
<tr>
<th>Point Sources</th>
<th>Non-point Sources</th>
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<tbody>
<tr>
<td><strong>Farms</strong></td>
<td></td>
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<tr>
<td>Waste from:</td>
<td>Rivers, Reservoirs</td>
</tr>
<tr>
<td>• Animal farms – poultry, dairy, pig, fish etc.</td>
<td>Groundwater</td>
</tr>
<tr>
<td>• Agriculture farms</td>
<td>Agricultural soil</td>
</tr>
<tr>
<td><strong>Factories</strong></td>
<td></td>
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<tr>
<td>Effluents from:</td>
<td></td>
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<tr>
<td>• Pharma manufacturing</td>
<td></td>
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<tr>
<td>• Feed mills</td>
<td></td>
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<td>• Slaughter houses</td>
<td></td>
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<tr>
<td>• Processing units (meat, dairy)</td>
<td></td>
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<tr>
<td>• Effluent treatment plants</td>
<td></td>
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<tr>
<td><strong>Households/Community</strong></td>
<td></td>
</tr>
<tr>
<td>Effluents from</td>
<td></td>
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<tr>
<td>• Sewage treatment plants</td>
<td></td>
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<tr>
<td>• Disposal of unused, expired drugs</td>
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<tr>
<td><strong>Healthcare Settings</strong></td>
<td></td>
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<tr>
<td>• Hospital sewage</td>
<td></td>
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<tr>
<td>• Waste from veterinary care settings</td>
<td></td>
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</tbody>
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Three AMR determinants that travel across the systems, sectors: Antibiotic resistant bacteria, Antibiotic resistance genes, Antibiotic residues

AMR in the environment is a cross cutting issue. Continuous and perhaps ever-lasting interplay among AMR determinants sets the ground for resistance growing like a chain reaction.
• A Media Workshop on Antimicrobial Resistance in Africa: A Growing Scourge held in July 2020

• Implementation of programmes aimed at supporting the Zimbabwe AMR-NAP

  – Creating awareness and building capacity of stakeholders such as policymakers, regulators, scientific community in health, agriculture, livestock, fisheries, drug and environment sectors as well as media on the required AMR containment efforts

  – Supporting the reviewing of the Zimbabwe’s NAP-AMR to help prioritize for effective implementation

  – Supporting the reviewing relevant existing policies and guidelines such as related to food, drug, animal, agriculture and environmental sectors, and helping modify or develop new policies/guidelines/frameworks/roadmaps that help Zimbabwe’s NAP-AMR implementation
Workshop objectives, expectations and plan

• **Objective**
  – *Assessment of implementation progress* of Zimbabwe’s AMR-NAP (Day 1)
  – *Prioritize Zimbabwe’s AMR-NAP* in view of next phase (Day 2)

• **Expectations**
  – Inputs for prioritized AMR-NAP for Zimbabwe

• **Plan after workshop**
  – Collation and compilation of inputs and discussions from group work
  – Engage with stakeholders over email to fill gaps and address queries

• **Final outcome**
  – Publish a prioritized AMR-NAP for Zimbabwe
Thank you

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