3-DAY INTERNATIONAL ONLINE WORKSHOP

UPDATING THE GLOBAL ACTION PLAN ON ANTIMICROBIAL RESISTANCE (AMR)

A Southern Perspective

CSE WEBINARS

Mainstreaming WASH and waste management to contain AMR from environmental routes

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Structuring the environmental problem of AMR

Environment:

- Factually – its both a **sink** and a **source**; what goes in comes out
- Perception wise – '**environment**' and **'waste**' come quite late in the scheme of things, unless there is an economic case to it (the design, implementation, impact assessment – do not focus on waste)
- Besides, this is 'beyond waste' (interactions b/w living and non-living, nutrient cycles, ecology, biodiversity)

Explains why there was limited focus on environmental AMR in GAP-AMR 1.0

Structuring the environmental problem of AMR

Point Sources				Non-point sources/reservoirs
Farms	**Factories**	**Households/ Community**	**Healthcare Settings**	
Waste from: • Animal farms: poultry, dairy, pig, fish etc. • Agriculture/ horticulture farms	Effluents from: • Pharmaceutical manufacturing plants and through CETPs catering to pharma sector • Feed mills • Slaughter houses • Processing units (meat, dairy etc.)	• Effluents from Sewage treatment plants • Disposal of unused, expired drugs at households, drug stores etc.	• Hospital sewage • Waste from veterinary care settings, laboratories etc.	Rivers, Reservoirs Groundwater Agricultural soil

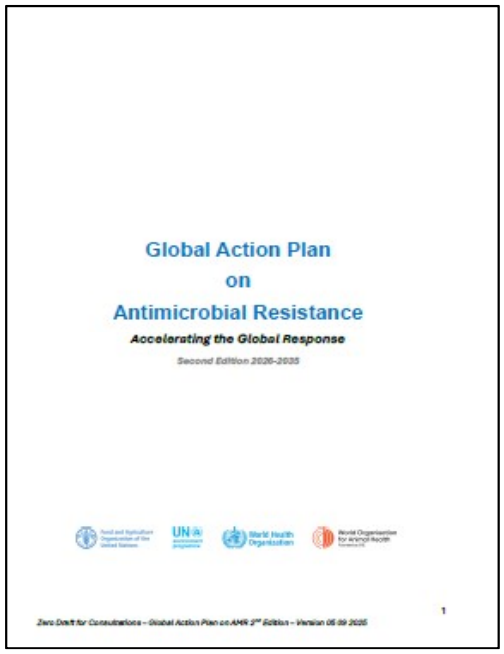
- **Addressing AMR in the environment is complex, cross cutting**
- **Three AMR determinants travel across the systems, sectors: antibiotic residues, resistant bacteria, AMR, resistance genes**
- **Nature of waste, AMR determinants, concentrations vary**

Addressing environmental AMR: Gains and support needed

Objective: Less AMR determinants in the environment through waste	
Expected outcome	**Support needed at national level**
• Less antibiotic/AMR pollution • Less investment to clean up • Less AMR risk • Safe food and drinking water • Better ecological health • Better national and global health • Suitable for LMICs, if done right in a cost-effective way	• Awareness and capacity building • Standards for AMR determinants in waste (selected and prioritized) • Strategic and optimized surveillance • AMR-centric approach to manage waste • Local, contextualized solutions • Cost-effective technological solutions for waste management; R&D ecosystem • Framework for reusing AMR-safe waste for circular efficiency • Targeted WASH interventions to reduce AMR

This is where the Global Action Plan 2.0 should inform and influence the national action

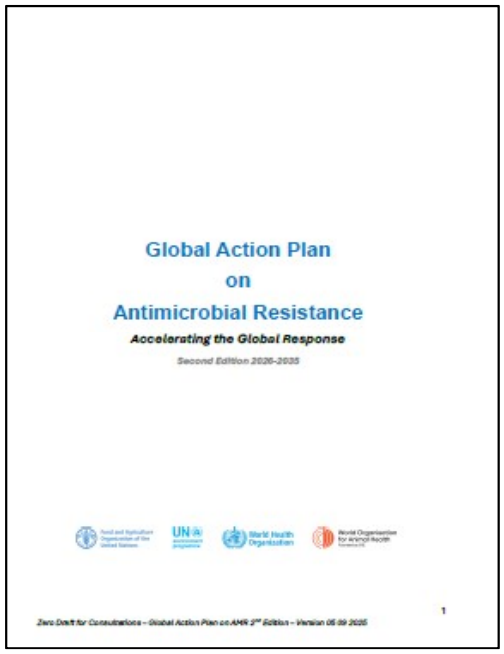
Zero Draft |Strategic Focus| Addressing role of environment



- **Separate strategic focus on environment**

"Address the role of the environment in development, transmission and spread of AMR, and integrate sustainable environmental management and pollution prevention and control as core pillars of global and national AMR strategies. This should include full integration of environmental dimensions into AMR multisectoral NAPs, and active engagement of environmental stakeholders alongside the human, animal, and agrifood sectors"

Zero Draft |Aspects in Strategic Objectives| Addressing role of environment



- Need for **behavior change**, **education** and **training**
- Integration of **prevention** efforts: **Waste and wastewater management**, pollution prevention and control
- **Surveillance/lab networks/capacity building**
- **Safe disposal** of unused antimicrobials to minimize antimicrobial waste and pollution
- **R&D** to understand **environmental transmission dynamics**; necessary **investments** and **innovations**
- **Integration of environment authorities** in governance and financing models; embed environmental dimensions of AMR into NAPs

However, updated Global Action Plan should also…

- Focus **more on waste management (specifically from hotspots such as sewage treatment plants, food-animal farms and antibiotic manufacturing factories),** because it will not be cost prohibitive. It will also be technically feasible, sustainable and prudent (because what goes in the environment will come out of it)

- Emphasize on research and promotion of **cost-effective technologies/solutions** for AMR surveillance, antibiotic residue surveillance and waste treatment

- How waste from farms can be made **AMR-safe** and used as manure for land-application (as LMICs greatly benefit from manure based organic fertilizers)

- Caution – Prioritize environmental surveillance that is **targeted** and **most-needed** (as countries of Global South will not be able to invest in a full fledged environmental surveillance)

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