Addressing AMR in developing countries: *a balancing act*

Arshnee Moodley
CGIAR AMR Hub leader
Nairobi, Kenya

Workshop on AMR of the Agricultural Chief Scientists of G20 01 September 2021
CGIAR AMR Hub mitigating agricultural associated AMR risks

Launched in 2019

5 Pillars of the AMR Hub

AMU, drivers drug supply chain
Prevalence & Transmission
Policy
Interventions
Capacity Building
Partnerships

Gaps
Evidence
Solutions
Policies
Scaling
Reduce AMR risks

www.amr.cgiar.org
Focus on small holder farmers largely neglected & informal sector
Why focus on Small holder farmers?

Market value of Africa’s animal-source foods will grow to ~$151 billion by 2050 (from ~$37bn in 2019)

Most livestock products are sold locally and informally
Addressing AMR in the informal agricultural sector is a balancing act

Livelihoods
Food & nutritional security
Global health priorities

**Impact on global poverty:** Significant increase in extreme poverty—additional 28.3 million people (high-impact AMR scenario)

**Impact on global livestock output:** Decline in livestock production 2.6-7.5% per year
Fundamentals of reducing AMU and the spread of AMR

**Reduce use**
- AMU surveillance
- Ban/restriction of specific antimicrobials
- Education-Awareness campaigns
- Evidence based treatment decisions
- Treatment guidelines
- Vaccines use
- Limiting profit of prescribers

**Reduce transmission**
- AMR surveillance
- Biosecurity
- Hygiene/decontamination

Challenges in both human and veterinary medicine in LMICs

Role of the environment??
Further challenges in agriculture in LMICs

- Low knowledge & awareness
- Low trust in authority
- Financial insecurity
- Small herd sizes
- Poor vaccine uptake
- Dispersed farming system
- Lack of traceability
- Complex value chains
- Little biosecurity
- Informal drug sellers
- Poor animal husbandry
- Poor holder farmers
- Low production yields
- Public + private importers
- Devolved governance
- Local consumption
- Porous borders

“easier” to regulate intensive, large herd production systems

motivation = profit
Approach to the informal agricultural sector in LMICs

What is the incentive to change?

Regulate, formalise or modernize vs. informal, dispersed, rural, untraceable & culture

Consumer/market drive are unlikely to be a major driver

Source: Options for the Livestock Sector in Developing and Emerging Economies to 2030 and Beyond. World Economic Forum White Paper January 2019
What about a gendered approach?

• “farmer” = man in the field or with his livestock

• 2/3 of 600 million poor mixed crop-livestock farmers are women
  • Between 5-10% of farms in NED, DK, DE are managed by females (Eurostat 2016)

• Gender-blind intensification interventions can inadvertently cause women to lose their business

AMR Interventions need to be effective AND empower rural women farmers
Sustainability of initiatives - we cannot eradicate AMR!

• What are the indicators for M&E - global or country-level?
  • Attempts to align with the UN SDGs
    • agriculture is not well reflected
    • AMR specific indicators?

• Targets to measure successful intervention?
  • Reduction % drug-resistant infections in humans and/or animals?
    • How much reduction?
    • Which drug-bug combination?
  • Vaccination coverage?
    • How much and which target organism?
  • Reduction in agri. AMU
    • How much reduction?

“Global leaders and experts today called for a significant and urgent reduction in the amounts of antimicrobial drugs, including antibiotics, used in food systems”
24th August 2021
## Exists many important gaps in LMICs?

<table>
<thead>
<tr>
<th>Question</th>
<th>LMICs</th>
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</thead>
<tbody>
<tr>
<td>Burden of AMR in humans and/or animals?</td>
<td>Unknown</td>
</tr>
<tr>
<td>Disaggregated AMU data?</td>
<td>Unknown</td>
</tr>
<tr>
<td>Interventions shown to reduce AMU at scale?</td>
<td>No</td>
</tr>
<tr>
<td>Interventions are feasible (access, distribution, uptake)?</td>
<td>Maybe, maybe not</td>
</tr>
<tr>
<td>Interventions are affordable for small-scale, semi intensive production farmers?</td>
<td>Unknown</td>
</tr>
<tr>
<td>Unintended negative consequences (e.g. livelihoods)?</td>
<td>Maybe large</td>
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Investments in AMR R&D

2017-2025

All sectors

Select your filter

Countries
Italy

2017-2025

All sectors

Parameter
Number of Projects
Total Investments
Currency
USD
EUR
Status
Active
Closed

Loc. of Funder
Parameter
S

European Union
56,914,400 T
United Kingdom
9,521,194 T
Italy
4,630,463 T
United States
4,422,128 T

by One Health Sectors (Total Investments in USD)
Move cursor over the colored shapes to show values

Animal: 16.5M
Environment: 6.7M
Human: 58.2M
Plant: 4.2M
Not Specified: 3.2M
Cross-Sector: 6.8M

by Research Area (Total Investments in USD)

Operational
Vaccines
Basic Research
Other Products
Diagnostics
Therapeutics
Capacity Building
Policy

by Location of Research Organisation (Total Investments in USD)

Where is the investments?

Bacteria
Fungi
Other

Who provides funding? Domestic vs. international

What has been the total investment?

Number of projects within timeframe

Last updated: 27.08.2021
Where is the investments?

Which sector?
Implementation budget (over 5 years): approx. 50M USD
In LMICs, including the agricultural sector, there needs to be

MORE INVESTMENTS IN ALL ACTION AREAS

LOCALLY RELEVANT INTERVENTIONS

IMPACT AT SCALE

CHANGE & COMMITMENT AT ALL LEVELS
Mitigating agricultural associated AMR risks together!