



Addressing AMR in developing countries: *a balancing act*

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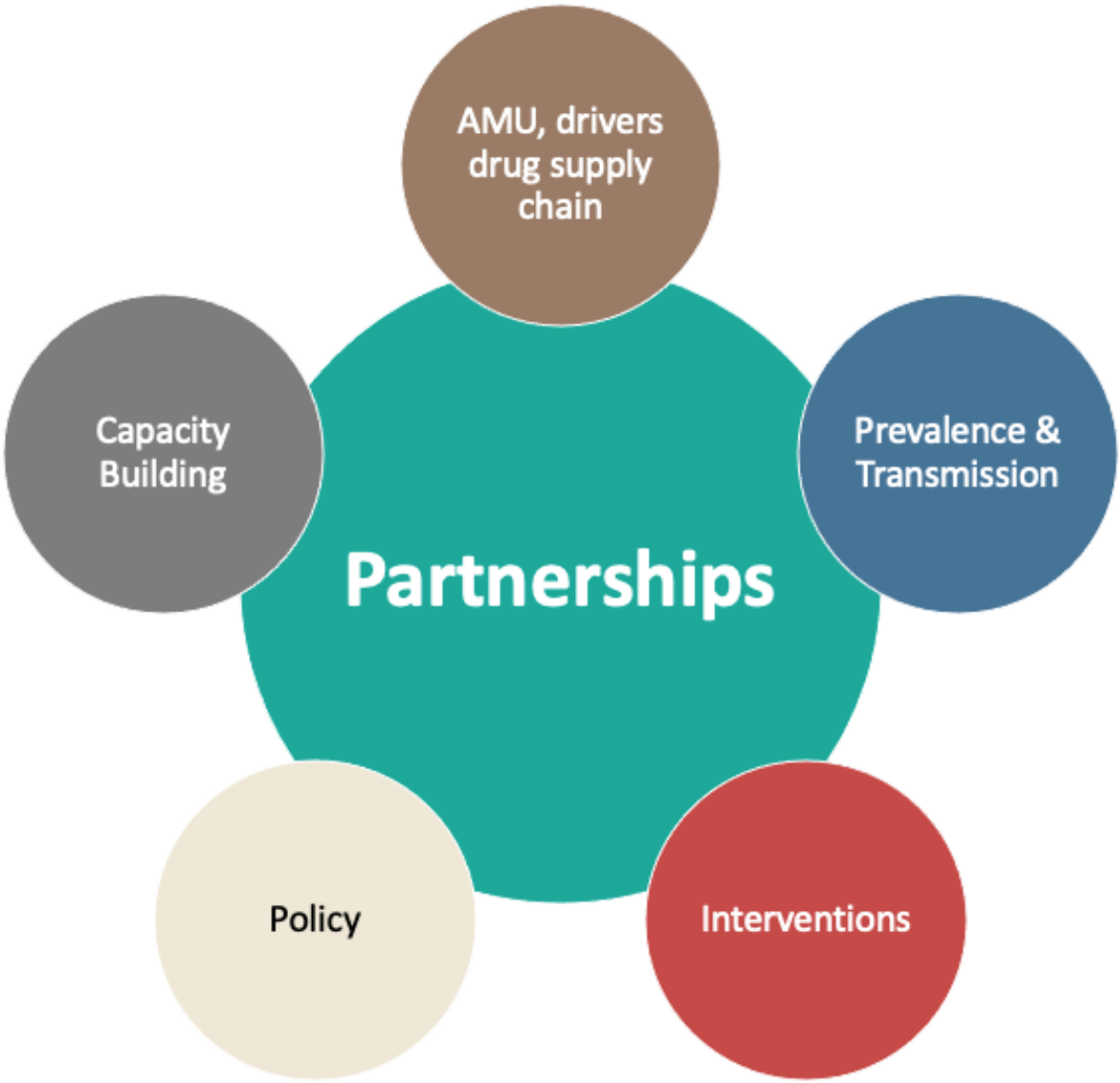
Workshop on AMR of the Agricultural Chief Scientists of G20 01 September 2021



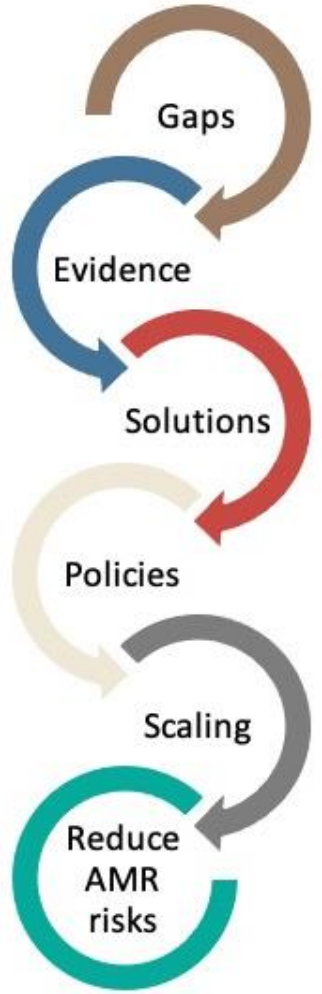
Antimicrobial
Resistance
Hub

CGIAR AMR Hub mitigating agricultural associated AMR risks

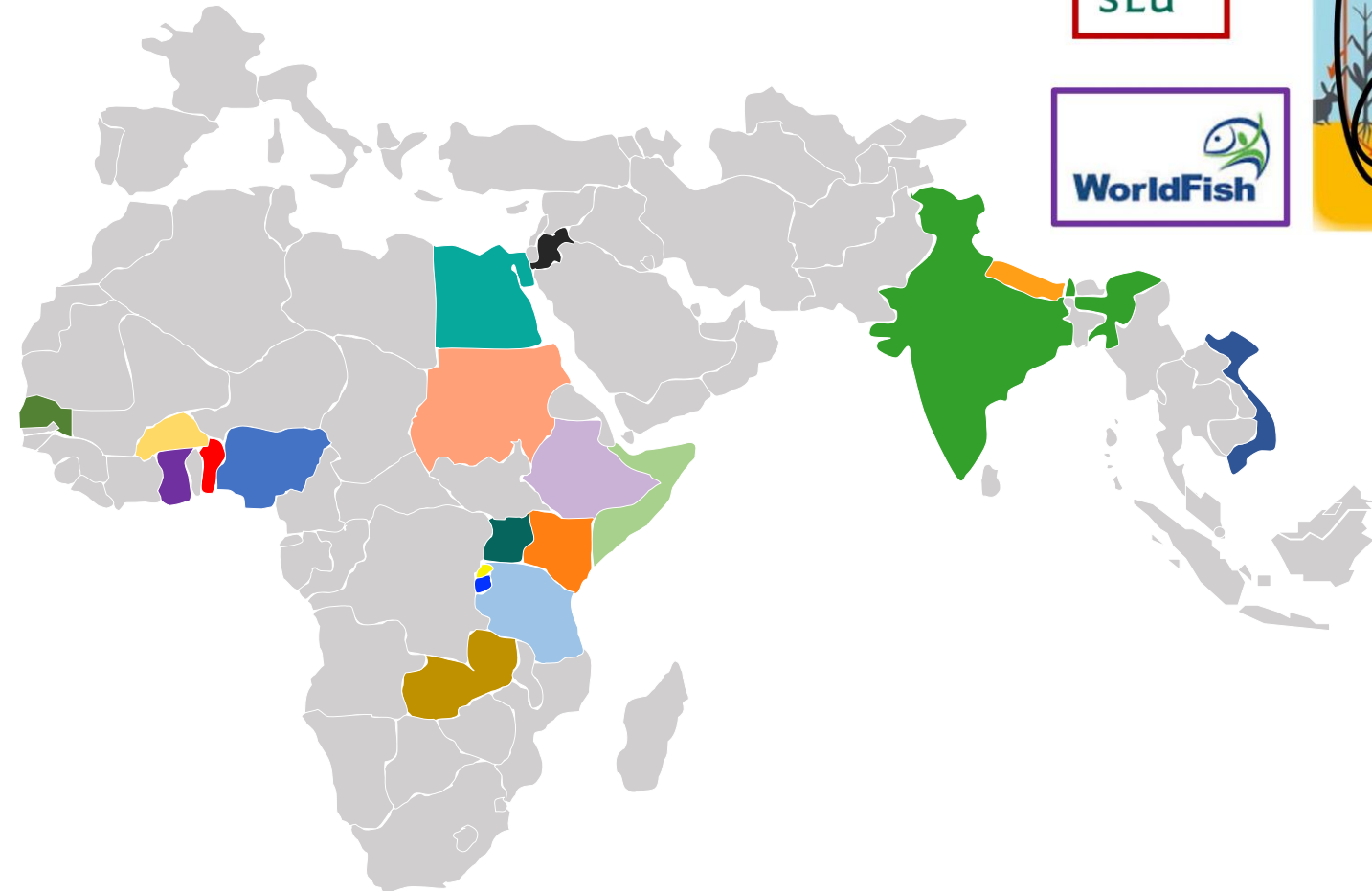
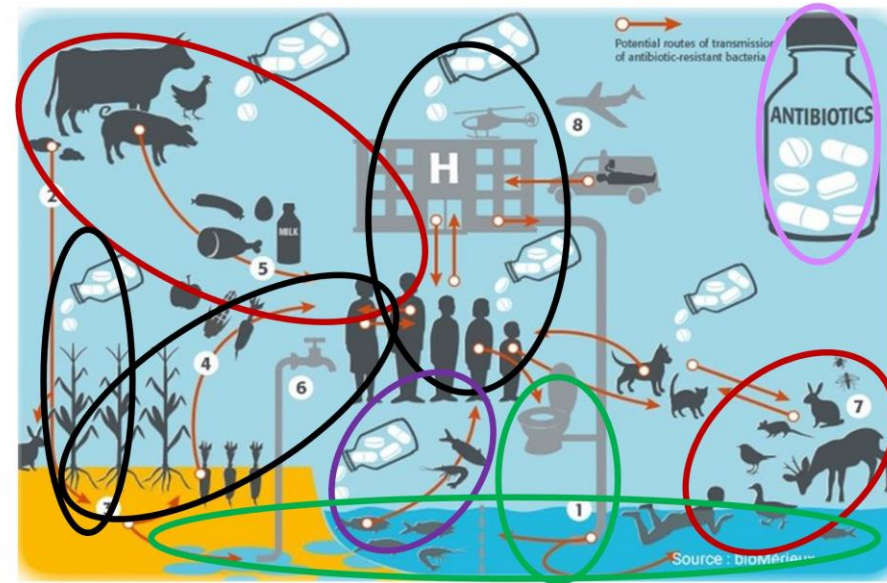
Launched in 2019



5 Pillars of the AMR Hub



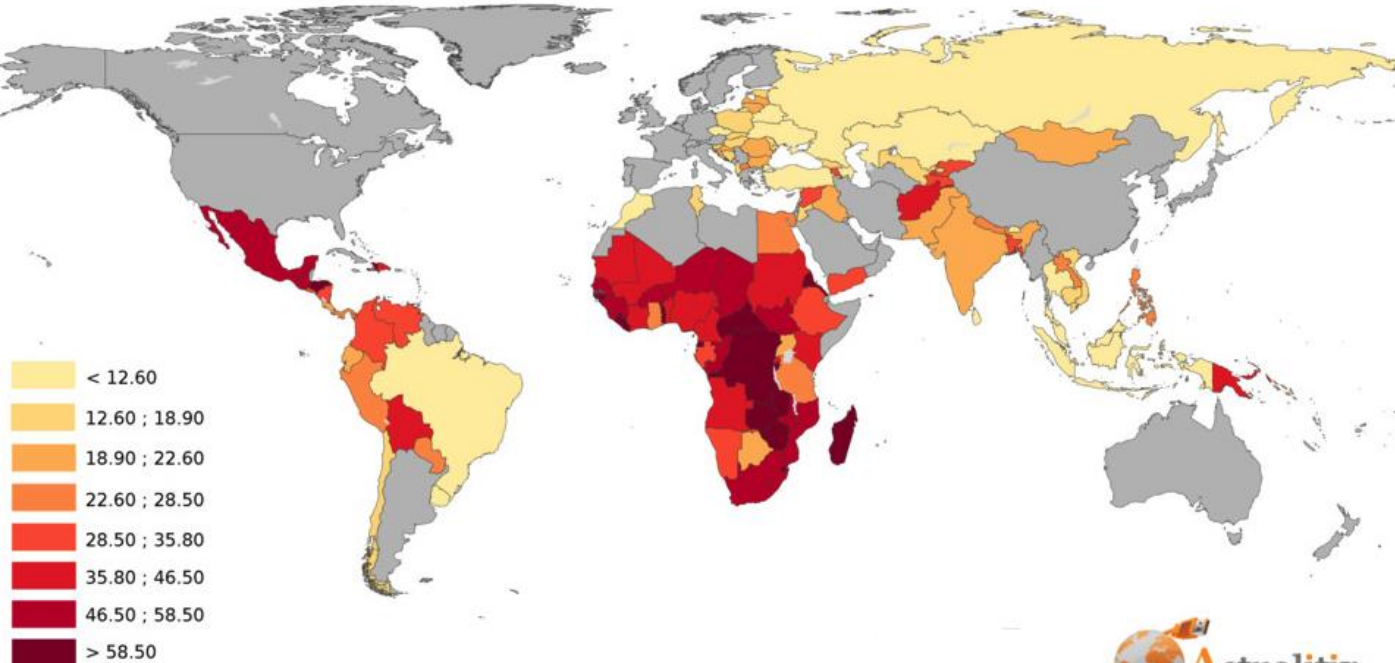
Hub's Approach & Activities



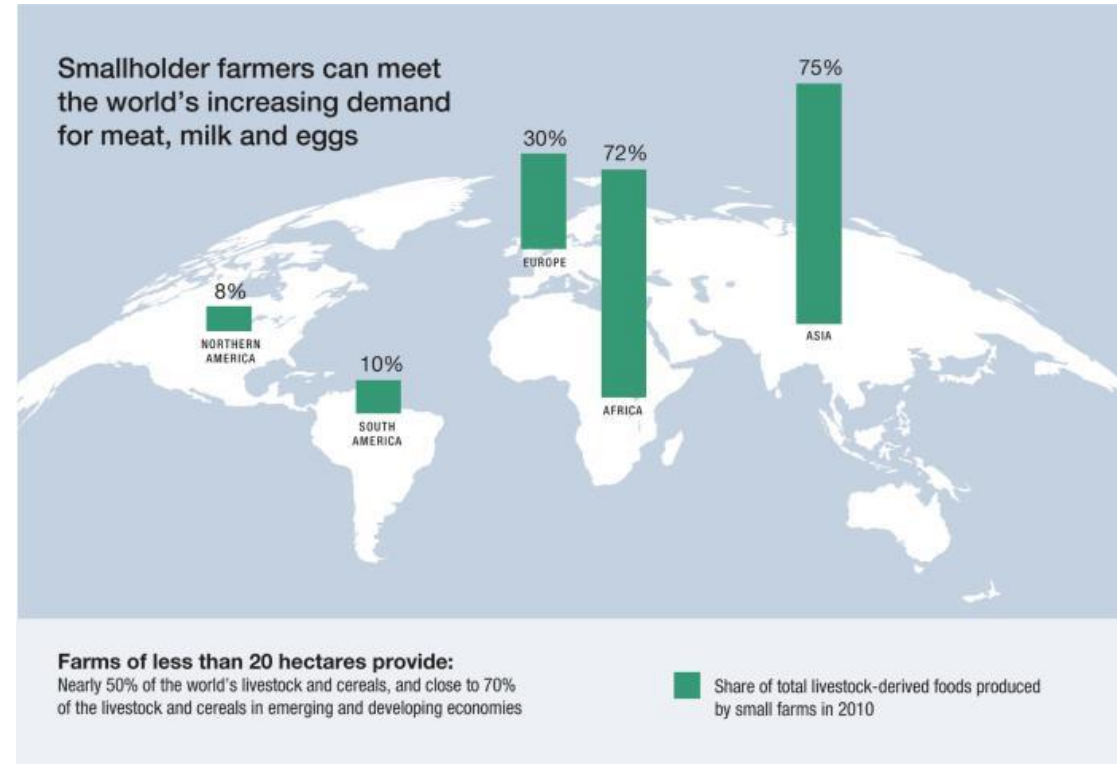
**Focus on small holder farmers
largely neglected & informal
sector**

Why focus on Small holder farmers?

Population below poverty line (%)



Source : The World Bank - 2015
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Source: *Options for the Livestock Sector in Developing and Emerging Economies to 2030 and Beyond*. World Economic Forum White Paper January 2019

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

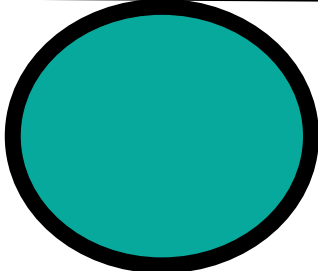
Global health priorities

Intensifying food systems

Infrastructure deficiencies

National 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

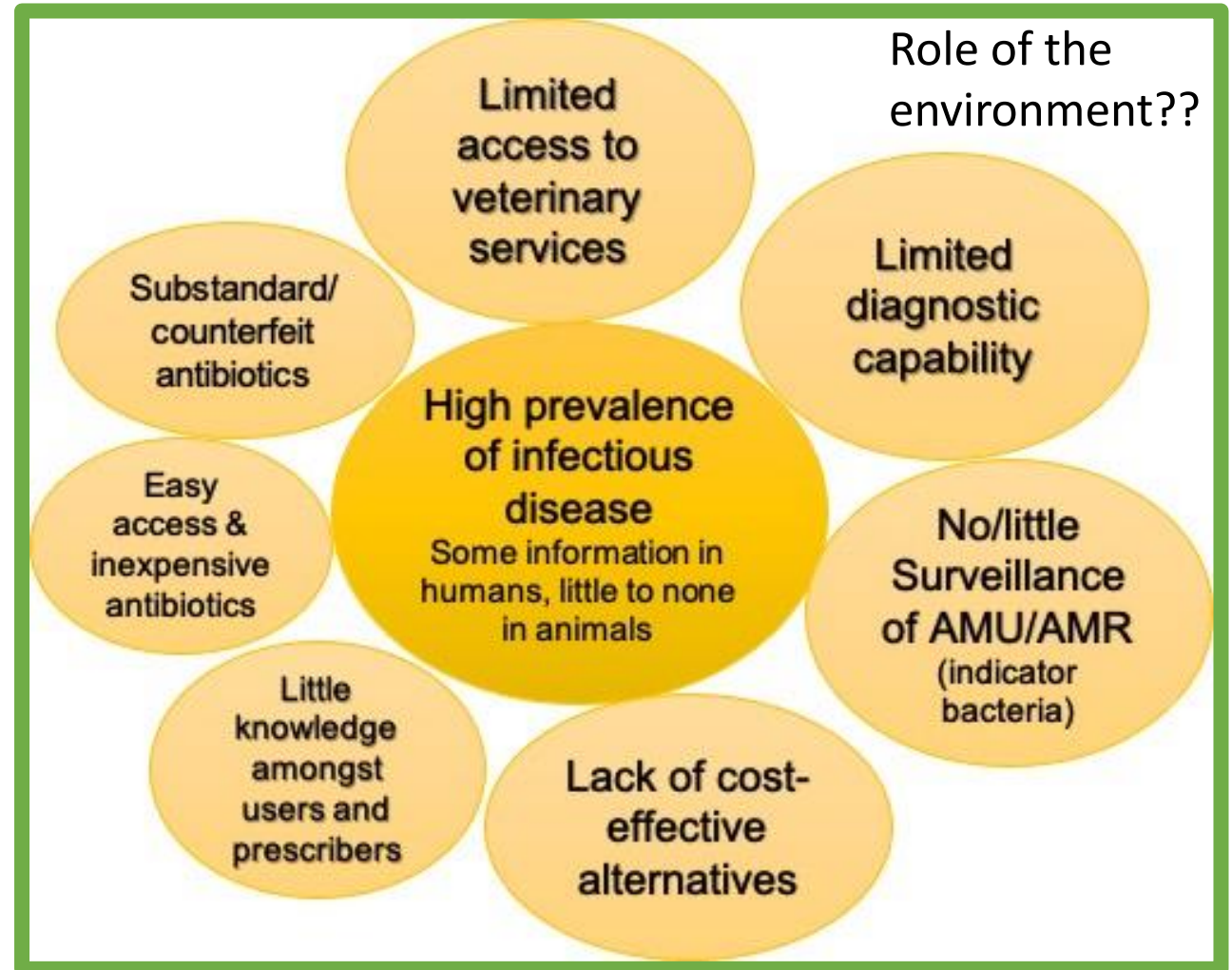
Fundamentals of reducing AMU and the spread of AMR

Reduce use

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

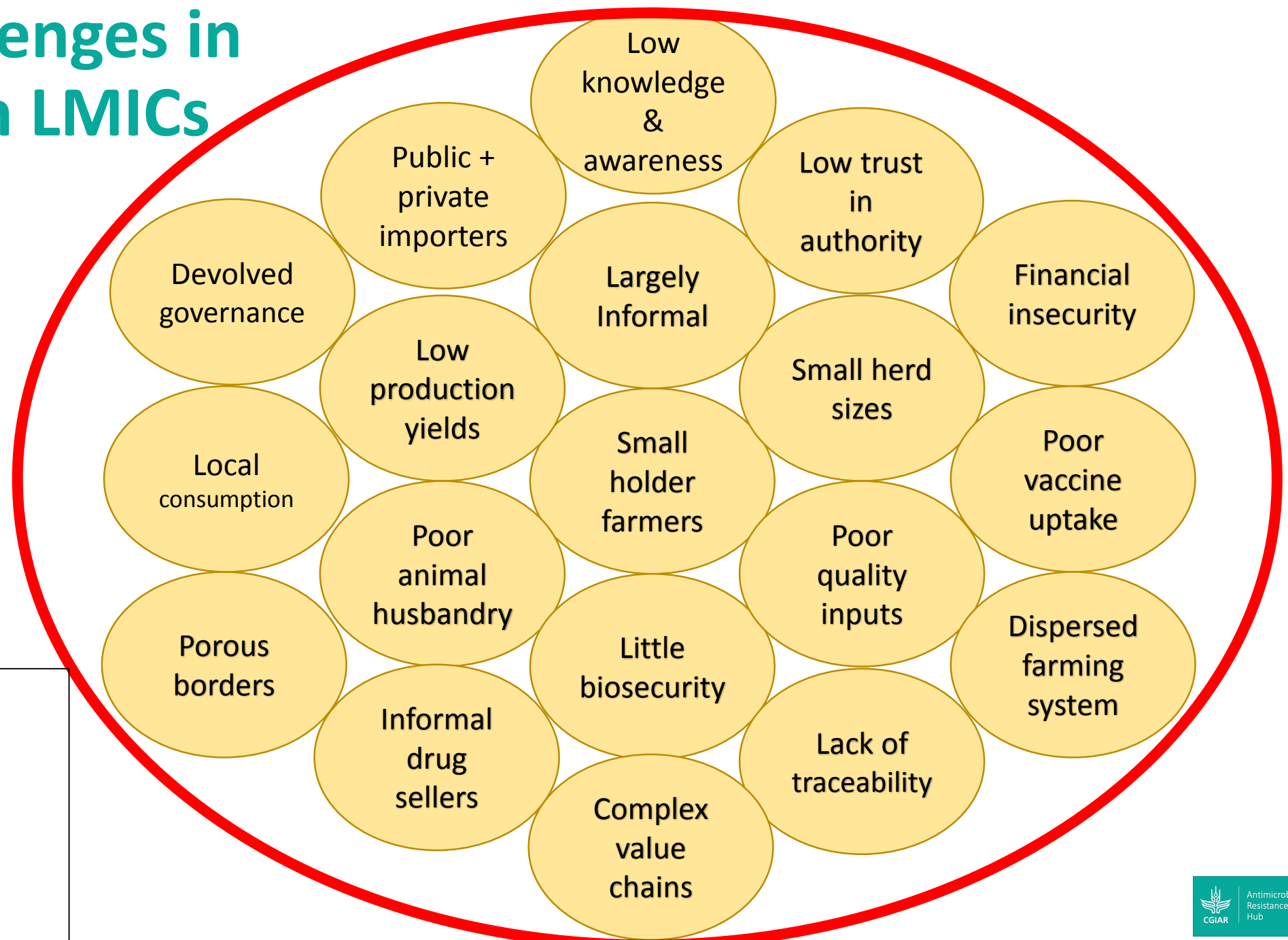
Reduce transmission

- AMR surveillance
- Biosecurity
- Hygiene/decontamination



Challenges in both human and veterinary medicine in LMICs

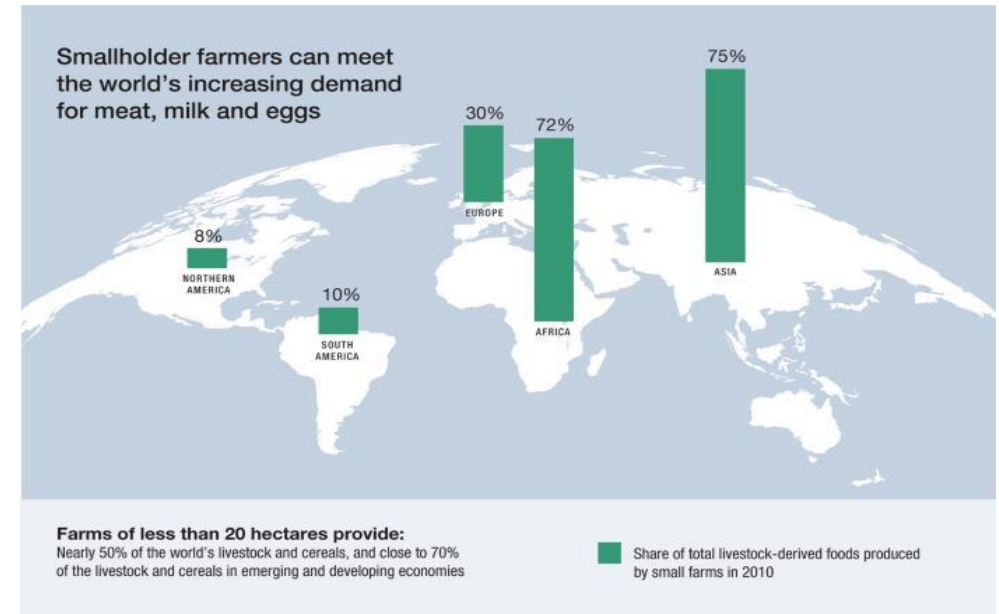
Further challenges in agriculture in LMICs



“easier” to regulate intensive, large herd production systems

motivation = profit

Approach to the informal agricultural sector in LMICs



Source: *Options for the Livestock Sector in Developing and Emerging Economies to 2030 and Beyond*. World Economic Forum White Paper January 2019

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

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?

	LMICs
Burden of AMR in humans and/or animals?	Unknown
Disaggregated AMU data?	Unknown
Interventions shown to reduce AMU at scale?	No
Interventions are feasible (access, distribution, uptake)?	Maybe, maybe not
Interventions are affordable for small-scale, semi intensive production farmers?	Unknown
Unintended negative consequences (e.g. livelihoods)?	Maybe large

Investments in AMR R&D

What has been the total investment?

Number of project within timeframe

Dynamic Dashboard | **COUNTRIES** | *All sectors*

No. of Funders: 9 | Total Investment USD: 75.49M | No. of Projects: 59

GLOBAL AMR R&D HUB

Last updated: 27.08.2021

Select your filter

Countries: Italy

2017-2025

All sectors

Parameter

Number of Projects | Total Investments

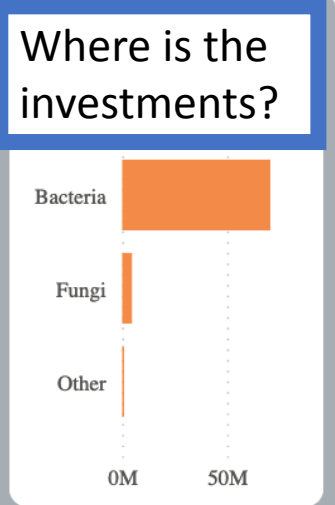
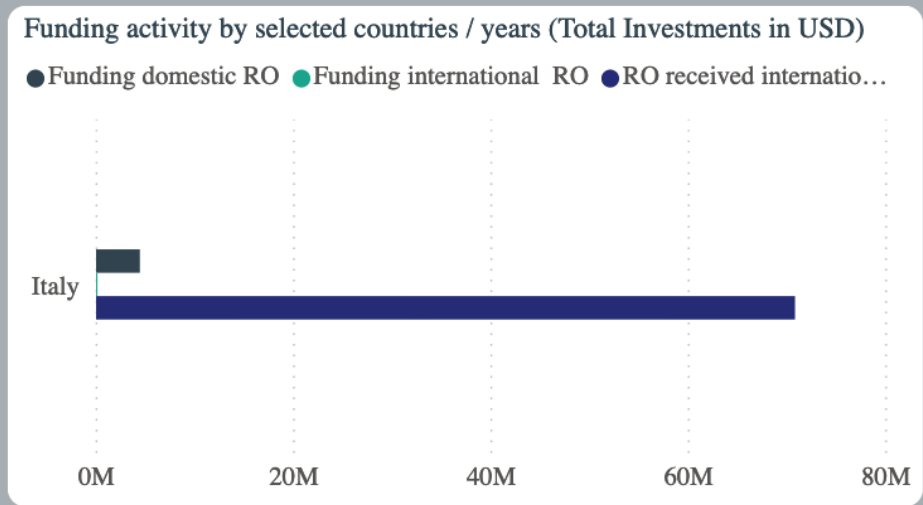
Currency: USD | EUR

Status: Active | Closed

Reset filter

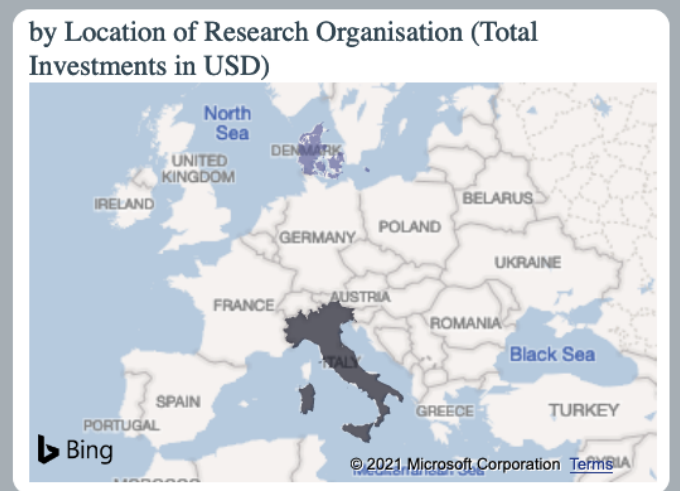
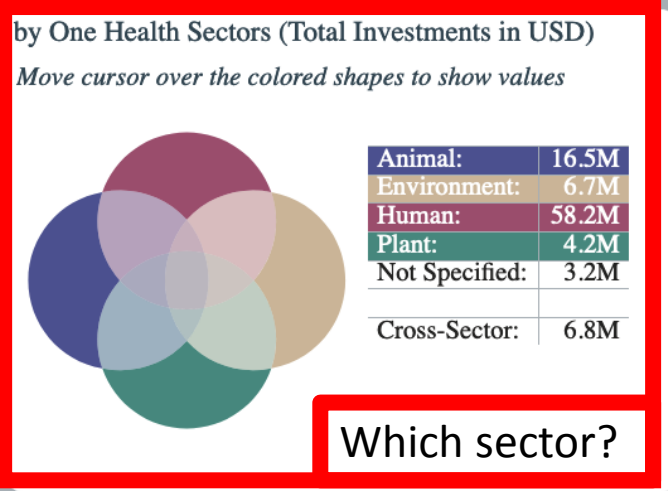
RO = Research Organisations
* on the years visual = incomplete years

See Data Table



Loc. of Funder	Parameter	S
European Union	56,914,406	T
United Kingdom	9,521,194	T
Italy	4,630,463	T
United States	4,422,128	T

Who provides funding? Domestic vs. international



No. of Funders
48

Total Investment
USD
1.77bn

No. of Projects
1941



Last updated: 01.09.2021

Select your filter

Countries
United Kingdom

2017-2025

All sectors

Parameter

Number of Projects

Total Investments

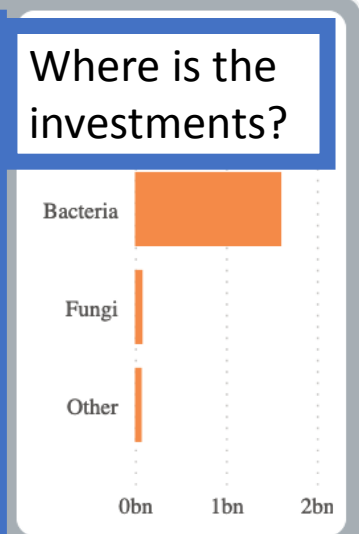
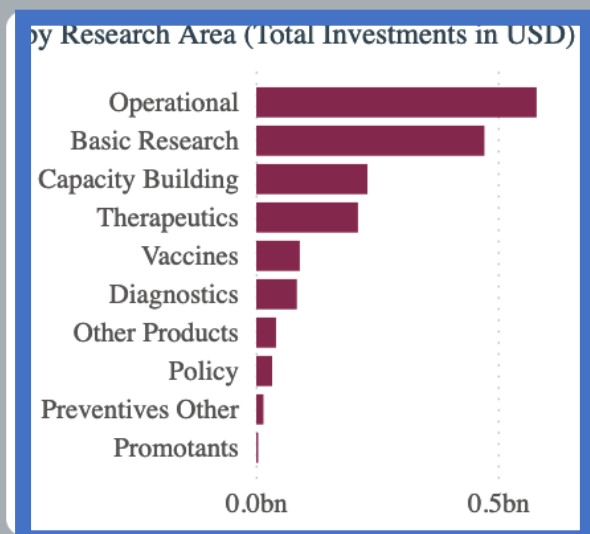
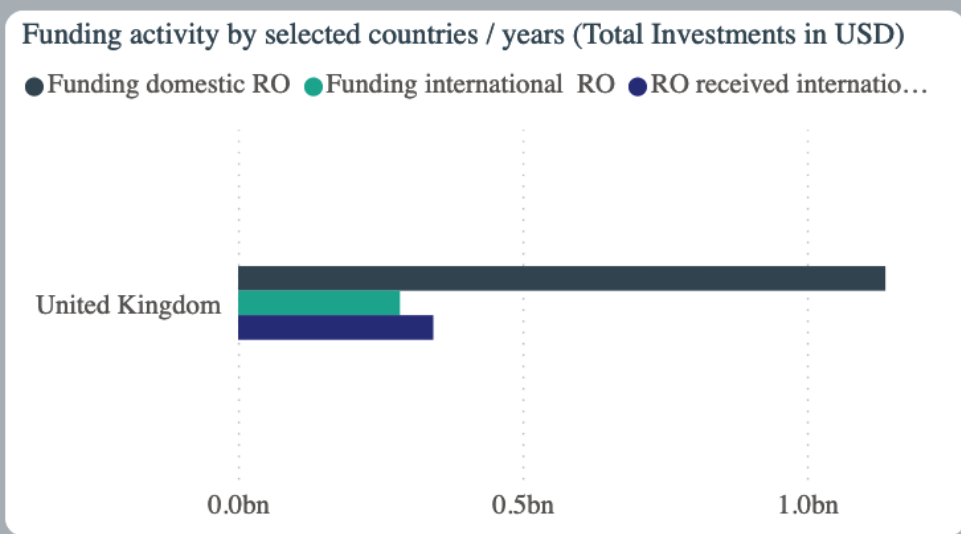
Currency
USD EUR

Status
Active Closed

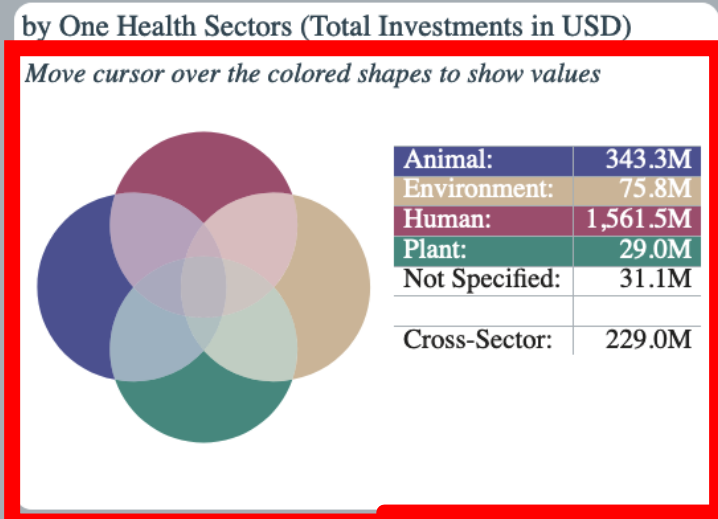
Reset filter

RO = Research Organisations
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See Data Table



Loc. of Funder	Parameter	S
United Kingdom	1,422,494,691	T
European Union	206,379,172	T
United States	84,318,535	T
Germany	50,000,000	T
Denmark	1,707,000	T
Canada	764,002	T
Austria	72,936	T



Which sector?

No. of Funders
6

Total Investment
USD
11.28M

No. of Projects
13



Last updated: 29.08.2021

Select your filter

Countries
Uganda

2017-2025

All

All sectors

All

Parameter

Number of Projects

Total Investments

Currency

USD EUR

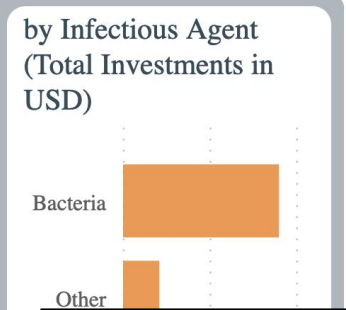
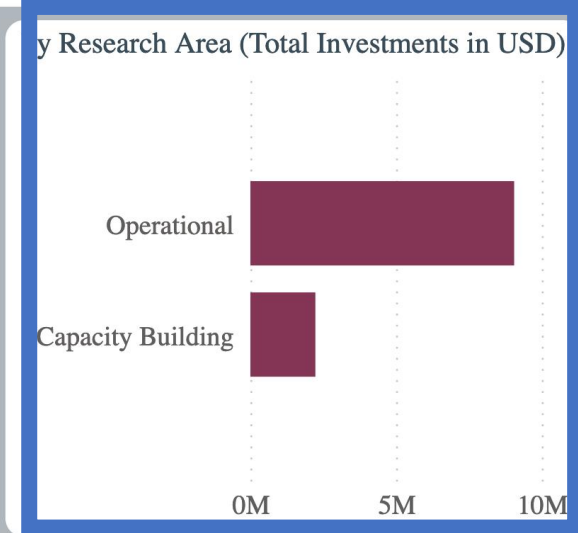
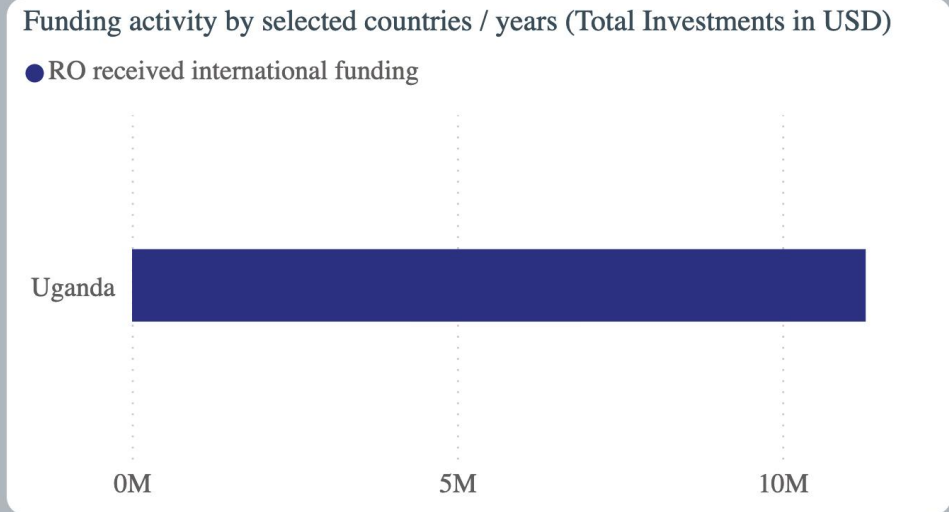
Status

Active Closed

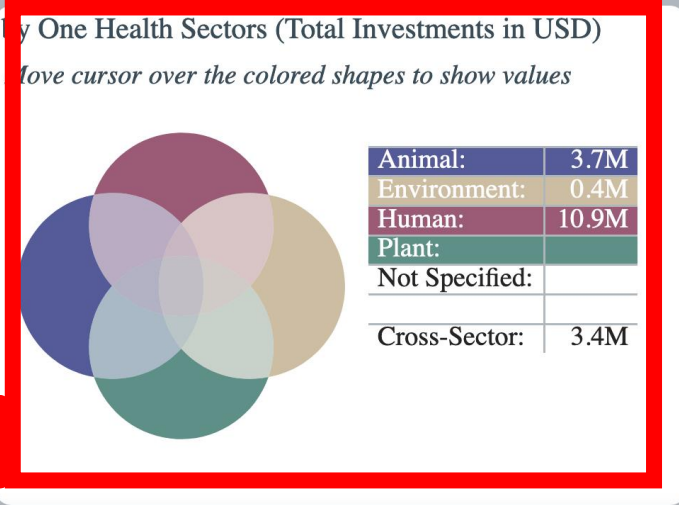
Reset filter

RO = Research Organisations
* on the years visual = incomplete years

See Data Table



Loc. of Funder	Parameter	S
United Kingdom	8,024,450	T
Sweden	1,746,090	T
European Union	1,239,145	T
United States	272,047	T



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!**

