



Food and Agriculture  
Organization of the  
United Nations

# Antimicrobial Resistance And Future changes in Agrifood Systems

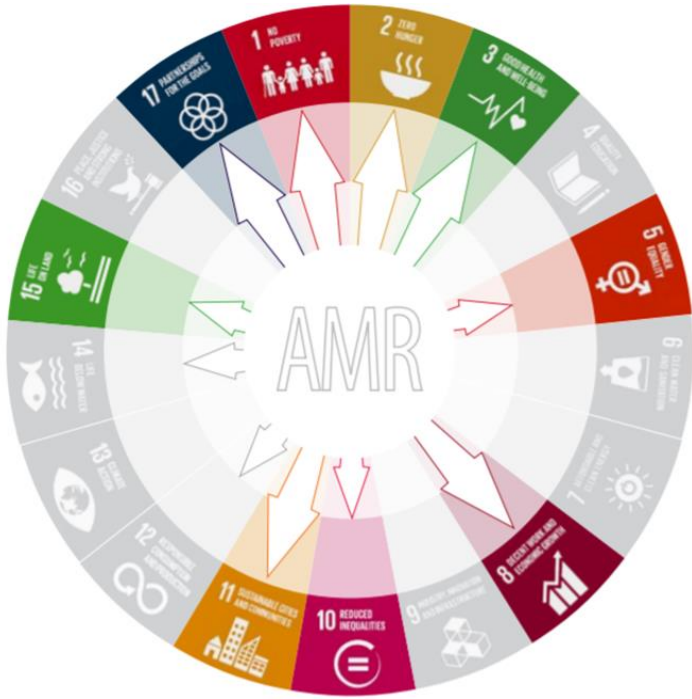


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## AMR will impede progress toward the 2030 agenda



### Sustainable Development Goals (SDG) threaten by AMR

- SDG 1 – No poverty
- SDG 2 – Zero hunger
- SDG 3 – Good health and well-being
- SDG 8 – Decent work and economic growth
- SDG 10 – Reduced inequalities
- SDG 11 – Sustainable cities and communities
- SDG 17 – Partnership for the goals

### SDG threaten by AMR directly related to agrifood systems

- SDG 2 – Zero hunger
- SDG 3 – Good health and well-being
- SDG 6 – Clean water and sanitation
- SDG 14 – Life below water
- SDG 15 – Life on land

[World Bank, 2019](#)

## Food-producing environment challenges

- Agrifood systems are facing an all times challenge as the **global food demand** is rapidly rising.
- There is a need to **transform** current agrifood systems in order to overcome that challenge
- This transformation must provide **food security**
- Agrifood production needs to become **sustainable** in order to provide the food security in response to the rising of the global food demand. Therefore the future agrifood systems need to ensure, as a minimum, that:
  - They are **environmentally friendly**
  - Contribute to **reduce climate change**
  - Contribute to **reduce AMR**

Food demand is estimated to increase more than 70% by 2050 (FAO, 2009)

It has been estimated that 73% of all antimicrobials sold globally are used in animals raised for food (Van Boeckel, Glennon et al. 2017)

Agriculture and deforestation to clear land for food production is directly responsible for up to 23% of all greenhouse gas emissions (IPCC's Special Report on Climate Change and Land 2019)



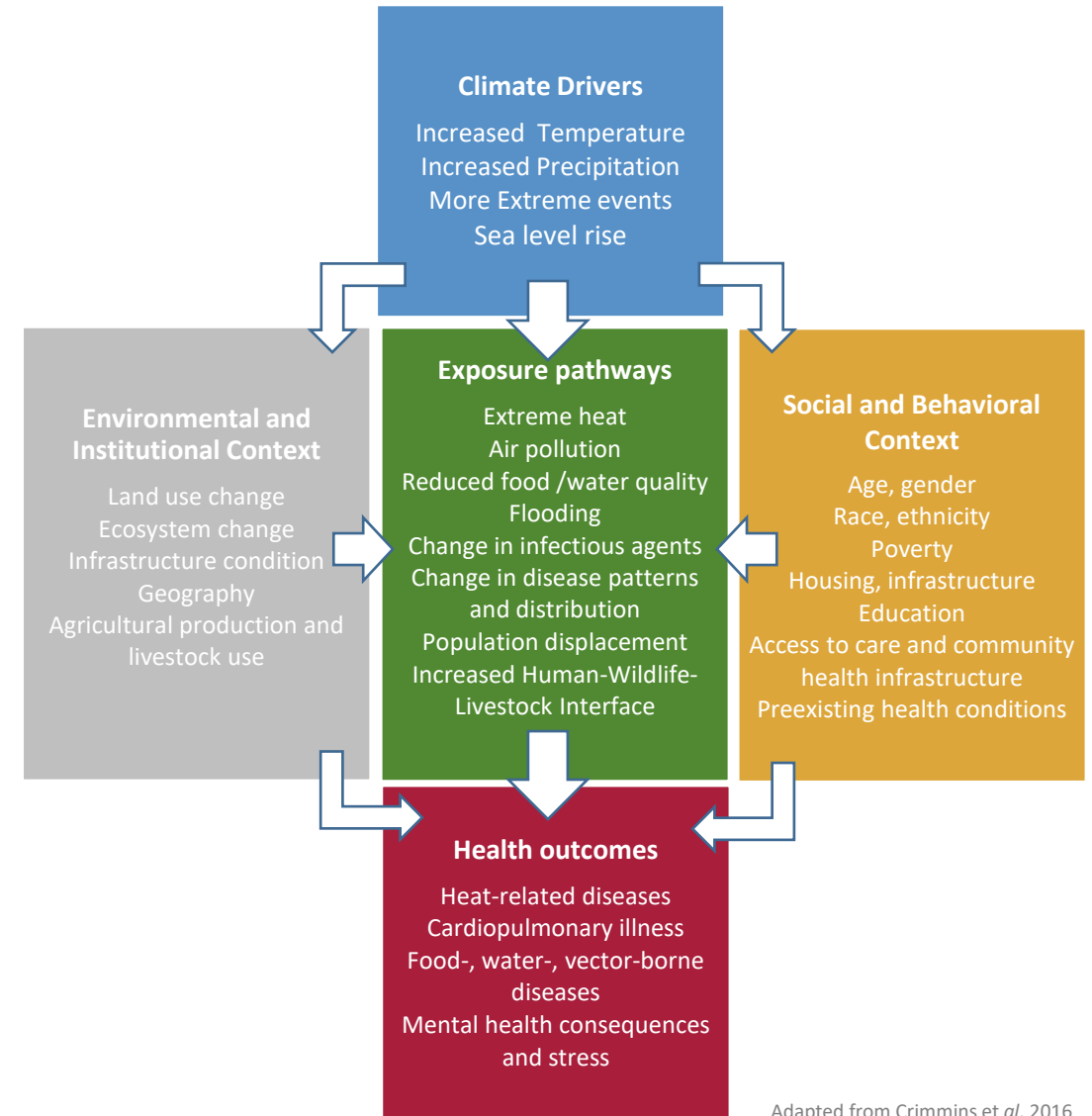
Agrifood systems transformation			
Scale-up of emergency agricultural assistance	Investment in agrifood systems and hard infrastructure and value chain infrastructure	Science and innovation to revamp agrifood systems	Food loss and waste reduction



## Future change in livestock sector as an example

### Livestock production

- **Climate change** has intensified the spread of **transboundary** animal and plant pests
- Among 58% of the animal diseases identified as most important to poor livestock keepers, are sensitive to climate change.
- The increased prevalence of animal diseases can drive **AMU** and burden the risks associated with AMR.
- Therefore, transformation of agrifood systems that consider two different issues, climate change and AMR (systems more protected against infectious agents: vaccines, quality food, better facilities and practices, etc...) is an example of how two different problems link and synergise in the solutions to apply.



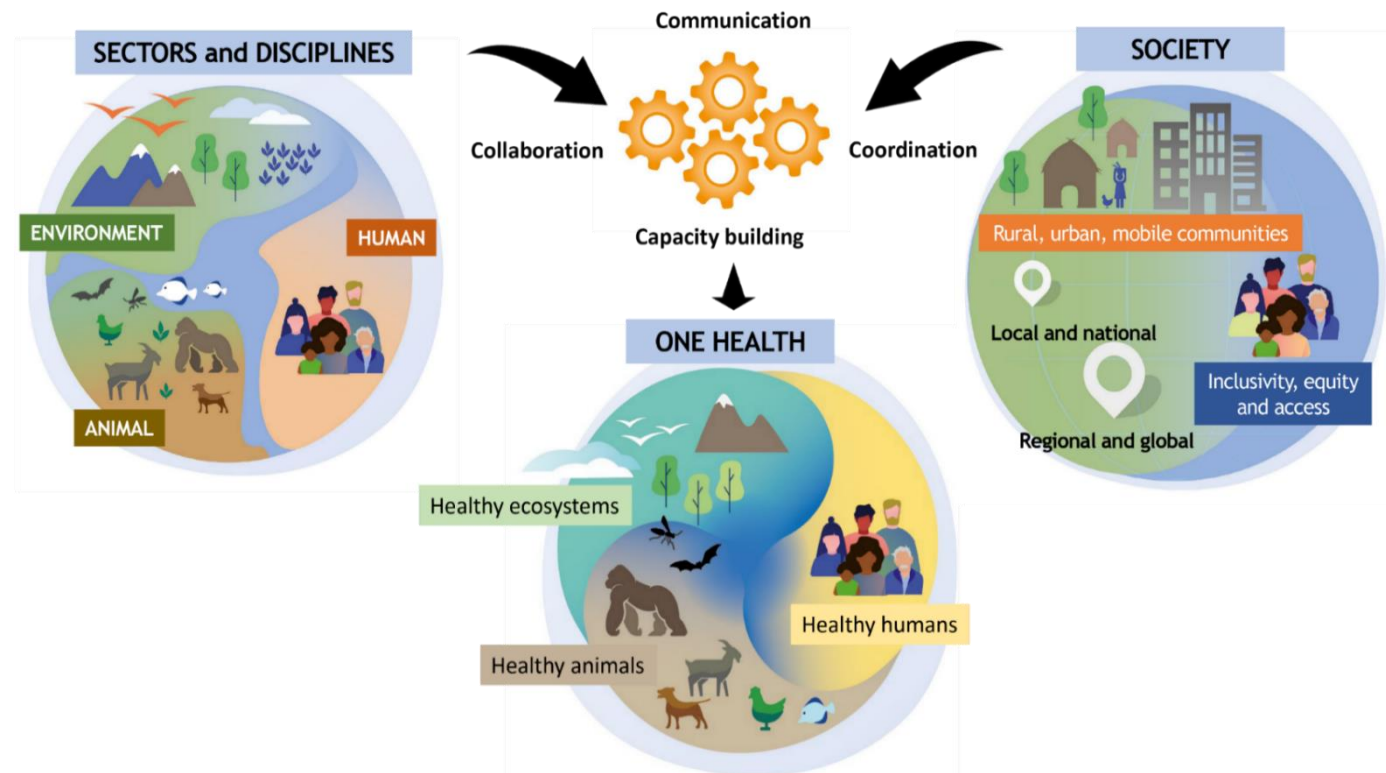
Adapted from Crimmins et al. 2016



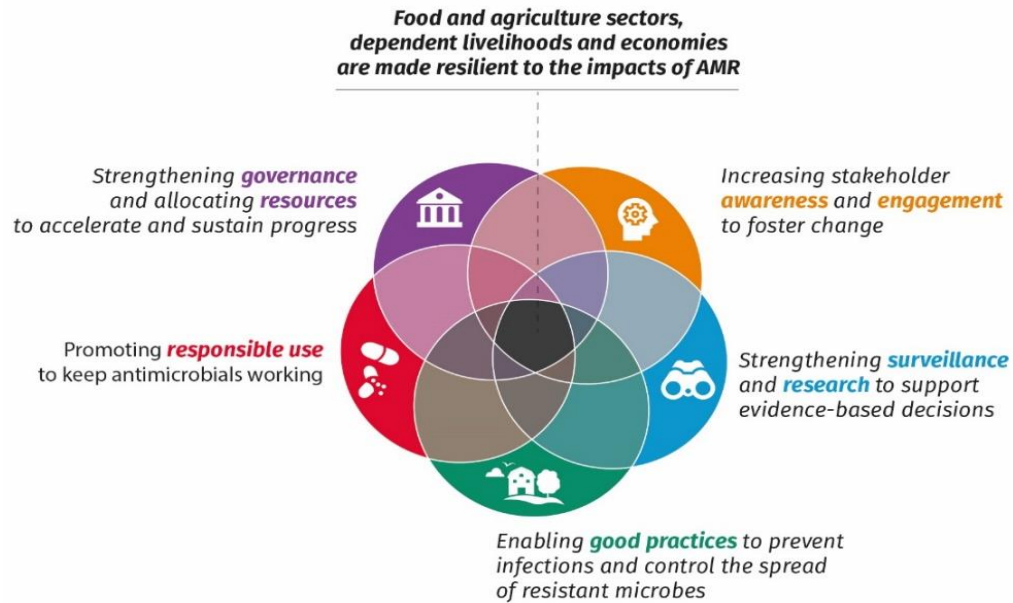
# One Health approach to address AMR

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants and the wider environment (including ecosystems) are closely linked and interdependent.

(One Health High Level Panel [OHHLEP] One Health definition, 2021)

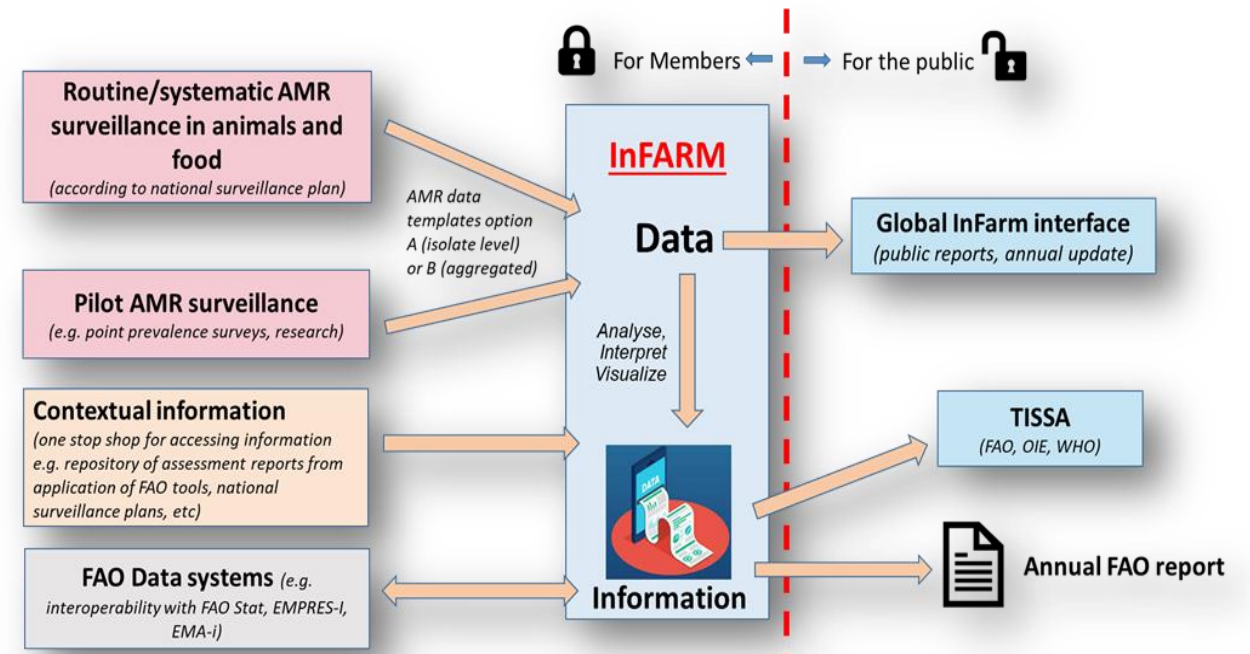


## FAO Action Plan on AMR 2021-2025



*Supporting innovation and resilience  
in food and agriculture sectors*

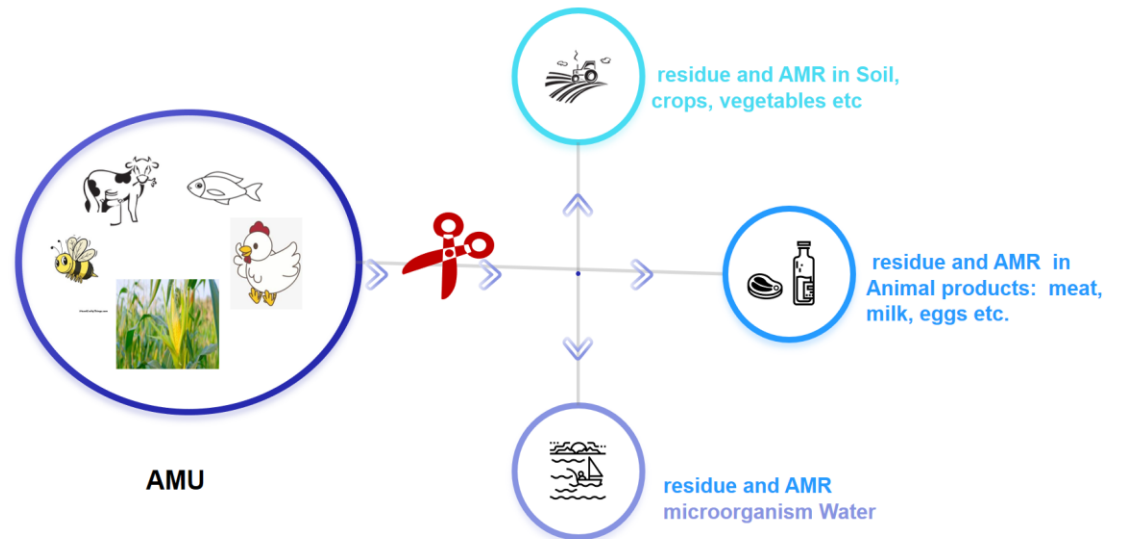
## International FAO Antimicrobial Resistance Monitoring (InFARM) System and IT platform



## Reducing the need of antimicrobials for Healthier Agrifood Systems

In order to effectively fight AMR under a One Health approach while ensuring sustainable food production, it is critical that the necessary transformation of current agrifood systems into sustainable production, includes a **reduction of the need** for antimicrobials.

### Why reduce the Need





# TAKE HOME MESSAGE

## WAY FORWARD

Act now upon what is already known: **reduce the need** for antimicrobials in the agrifood systems to combat AMR

Keep **refining the OH approach** to better link Development and AMR.

## Acknowledgement:

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*Protecting people, animals, and the environment every day*