

# The Current State of AMR Research Activities Including Alternative to Antimicrobials (ATA) and Collaboration Opportunities in Indonesia

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## Background on AMR research in the [Indonesia]

The current status of AMR research in INDONESIA



- New NAP Development (2025-2029)
- AMR tricycle project in ESBL research project (2018-2019)
- AMU surveillance study in 12 provinces (2017-2023)
- The impact of reducing colistin use on colistin resistance in humans and poultry in Indonesia (2022-2025)
- Survey knowledge, attitude, and practice (KAP) in layer farm (2022)
- Collaborative Projects on Association of Quinolones Resistance Pattern within Farmers, Dairy Farms and Catfish Farm (2022)

## The key stakeholders on the AMR research



Ministry of Health,  
Ministry of Agriculture,  
Ministry of Marine & Fisheries  
Government



University of Indonesia  
Academic



Research Center



Private Sector

## ATA Research Focus

The state of research on ATA in Indonesia

### Vaccines



#### Bacterial

*C. perfringens (NE)*, *mycoplasma (MG)*, *H. paragallinarum (coryza)*, *P. multocida (cholera)*



#### Protozoa

*Eimeria (Coccidiosis)*

### Probiotics



*Lactobacillus*, *Bacillus*, *Enterococcus*, *S. cerevisiae*, *Bifidobacterium*

### Phytonutrients



*Quillaja Saponaria*, *Yucca schidigera*, *Curcuma*, *Oregano*, *Jathropa M*, *Muntingia calabura*,



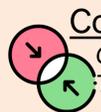
### Bacteriocin

*Lactobacillus*, *Pediococcus*



### Antimicrobial Peptides

AMP *Clarias sp*



### Combinations

*Curcuma-Zinc*, *Trigona-Zingiber*

The regulatory or practical barriers to developing ATA-based treatments in Indonesia



Best Practice



Biosecurity



Investment

## Challenges related to AMR/ATA research

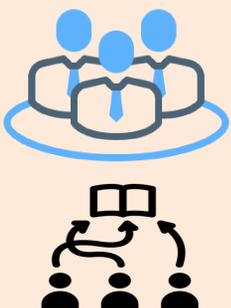
- Lack of priority on innovations and products development
- Lack of natural materials exploration
- Benefit ratio for the end-user
- ATA paradigm less effective
- R&D investment and funding priority
- Length of research process
- Market value

## Solutions



- Strengthening upstream and downstream products research and development
- Long-term collaboration among government, academic, and private sector
- Research output to be products commercialization
- Involves main actor user (farmer)

## Collaboration opportunities



- Collaboration among regional countries with academic collaboration or national research organization
- Support on investment to potential ATA sources with consortium platform collaboration
- Sharing experiences and lesson learned to develop ATA