Member's update on

One Health activities (AMR)

[Republic of Korea]

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World Organisation for Animal Health

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Ministry of Agriculture and Rural Affairs of the People's Republic of China

Ministry of Agriculture, Food and Rural Affairs

Antimicrobial Use (AMU)and Antimicrobial Resistance (AMR)

1. Current situation
    - Antimicrobial resistance crisis in Global level
2. National Action Plan
    - Goals and Activities in terrestrial animals
    - Surveillance AMR / AMU in terrestrial animals
3. Prudent antimicrobial use
    - Development of models and prescription guidelines
    - Awareness activities
4. Multisectoral and International cooperation

◆ Antimicrobial Use Resistance Crisis

Humans

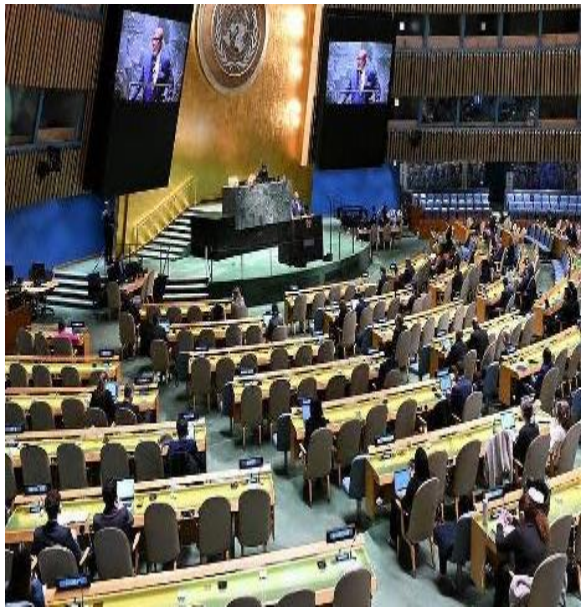
The Washington Post

✓ (The Lancet, 2024)

Antibiotic resistance could cause over 39 million deaths by 2050, study says

(September, 2024)

UN General Assembly High-Level Meeting on antimicrobial resistance 2024



(September, 2024)

- ✓ 39 million death due to AMR from now to 2050
- ✓ General Assembly adopted Political Declaration on AMR

Livestock

Forecasting the Fallout from AMR: Economic Impacts of Antimicrobial Resistance in Food-Producing Animals

World Organisation for Animal Health | AID Animal Industry Data | CGD Center for Global Development | Institute for Health Metrics and Evaluation | RAND Europe | The World Bank

FIGURE 2 Predicted global production quantities (tons, millions) under reference scenario by modelled livestock sector (2025 and 2050)

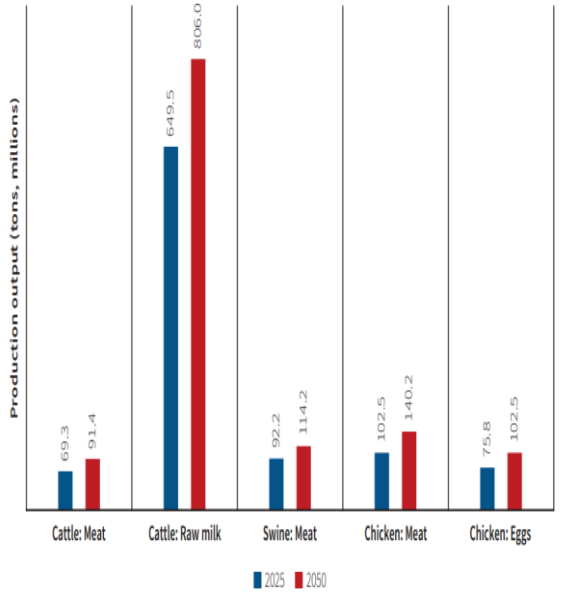


TABLE 3 Predicted antimicrobial consumption (tons) for reference scenario by region (2025–2050)

Year	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	North America	South Asia	Sub-Saharan Africa	World
2025	28,492	6,632	11,918	1,556	8,739	2,486	1,248	61,070
2030	29,041	6,778	12,406	1,624	8,893	2,548	1,419	62,708
2035	29,600	6,926	12,914	1,695	9,060	2,613	1,618	64,427
2040	30,171	7,078	13,444	1,770	9,241	2,681	1,848	66,233
2045	30,754	7,233	13,995	1,848	9,438	2,751	2,111	68,135
2050	31,348	7,392	14,569	1,931	9,651	2,825	2,425	70,141

Note: entries are reported in tons and represent absolute changes in AMU by year and region based on livestock production disease (LPD) model simulations for the reference scenario.

(WOAH and World Bank, 2024)

- ✓ Global production of livestock : **24 ~ 37%** (2025 vs 2050)
- ✓ Antimicrobial consumption : **11%** (2025 vs 2050)

National Action Plan

◆ Establishing the NAP on AMR in ROK

2015

WHO adopted "Global Action Plan on Antimicrobial Resistance"(68th WHA)
→ urging all WHO Member States to establish NAP on AMR within 2 years

2016

「The 1st NAP on AMR」was established in ROK in collaboration with 7 ministries*.
*** KDCA, MOHW, MFDS, MAFRA, MOF, and ME**

2021

The 2nd NAP on AMR (2021~2025) was established.

◆ Focus area of 1st and 2nd NAP

1st NAP (2016-2020) Six major fields

① Using antimicrobials appropriately

② Preventing the spread of AMR bacteria

③ Strengthening surveillance system

④ Raising awareness of AMR

⑤ Enhancing infrastructure and R&D

⑥ Activating international cooperation

2nd NAP (2021-2025) Five major fields

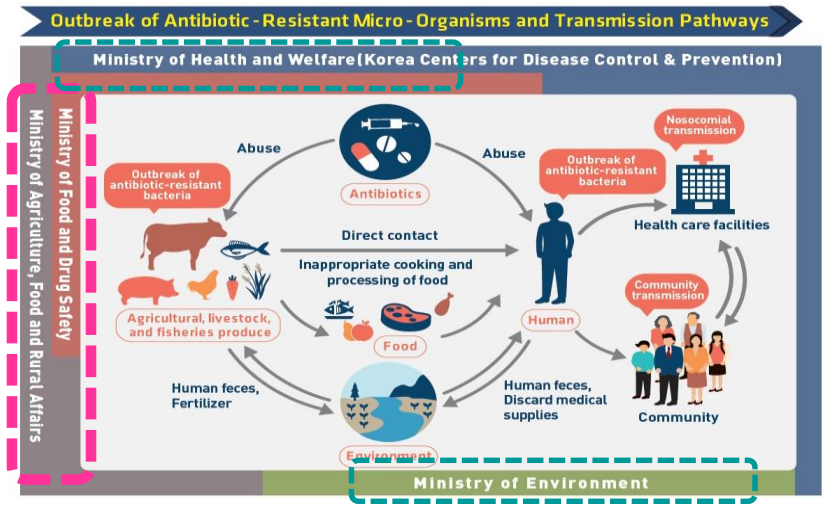
① Using antimicrobial appropriately

② Preventing the spread of AMR bacteria

③ Strengthening surveillance system

④ Advanced R&D for AMR

⑤ Activating international cooperation



The Government of the Republic of Korea

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◆ Vision and Goals of 2nd NAP

- **Vision**
  - Manage AMR in people, animal, and environment to keep people safe and healthy
- **Goals**
  - Reduce AMR bacteria by using appropriate usage and types of antimicrobial where necessary
  - Curb the spread of AMR bacteria by reducing surveillance system and implementing IPC

➢ 2nd NAP Key Indicators

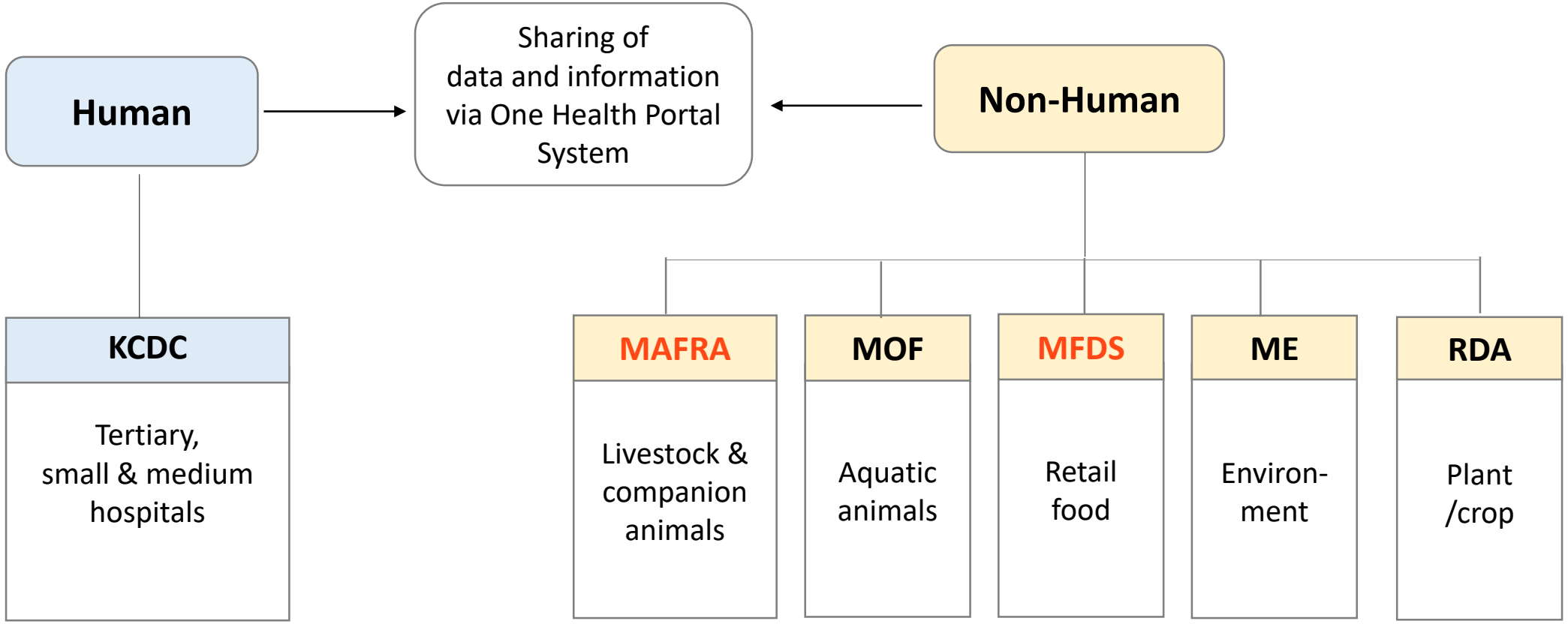
NAP Key Performance Indicators	2020	2025
[Livestock] Antibiotic Consumption (mg/pcu)	217	195
[Chicken] Fluoroquinolone resistance rate of *E. coli* (%)	78.3	70.5

◆ Main Focus of each objective

Objectives	Main Focuses
Strengthening Surveillance System	① Expand antimicrobial residue management system in non-human sector ② Strengthen AMR surveillance system in non-human sector ③ Build integrated surveillance system
Appropriate Use of Antimicrobials	① Appropriate use of antimicrobials for livestock and fisheries industries ② Improve awareness of appropriate use of antimicrobials
Prevention of the Spread of AMR Bacteria	① Prevent spread of AMR bacteria in the livestock and fisheries industries
Expansion of R&D	① Implement AMR research in One Health aspect ② Strengthen research for appropriate use of antimicrobials
Collaboration for Controlling AMR	① Establish inter-departmental collaboration system for solving AMR problem ② Strengthen global cooperation to fight against AMR

Strengthening Surveillance System

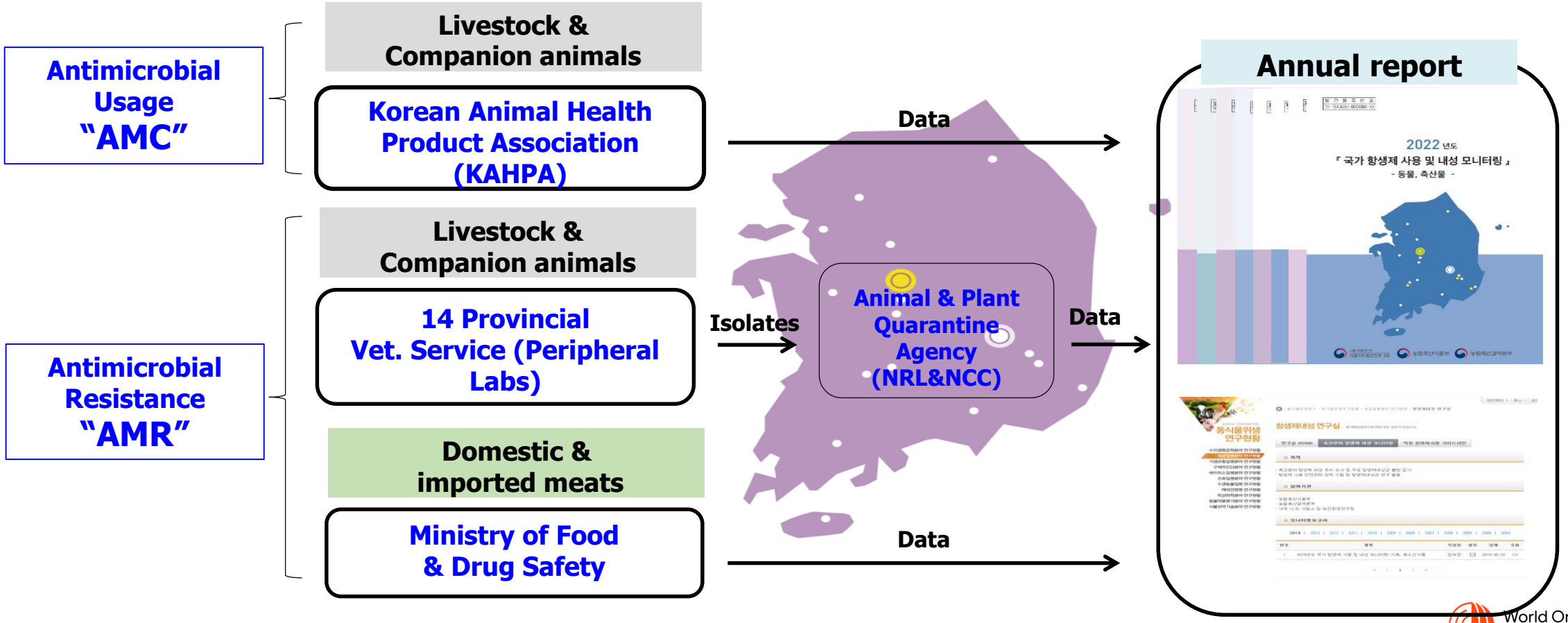
◆ AMR Surveillance in ROK



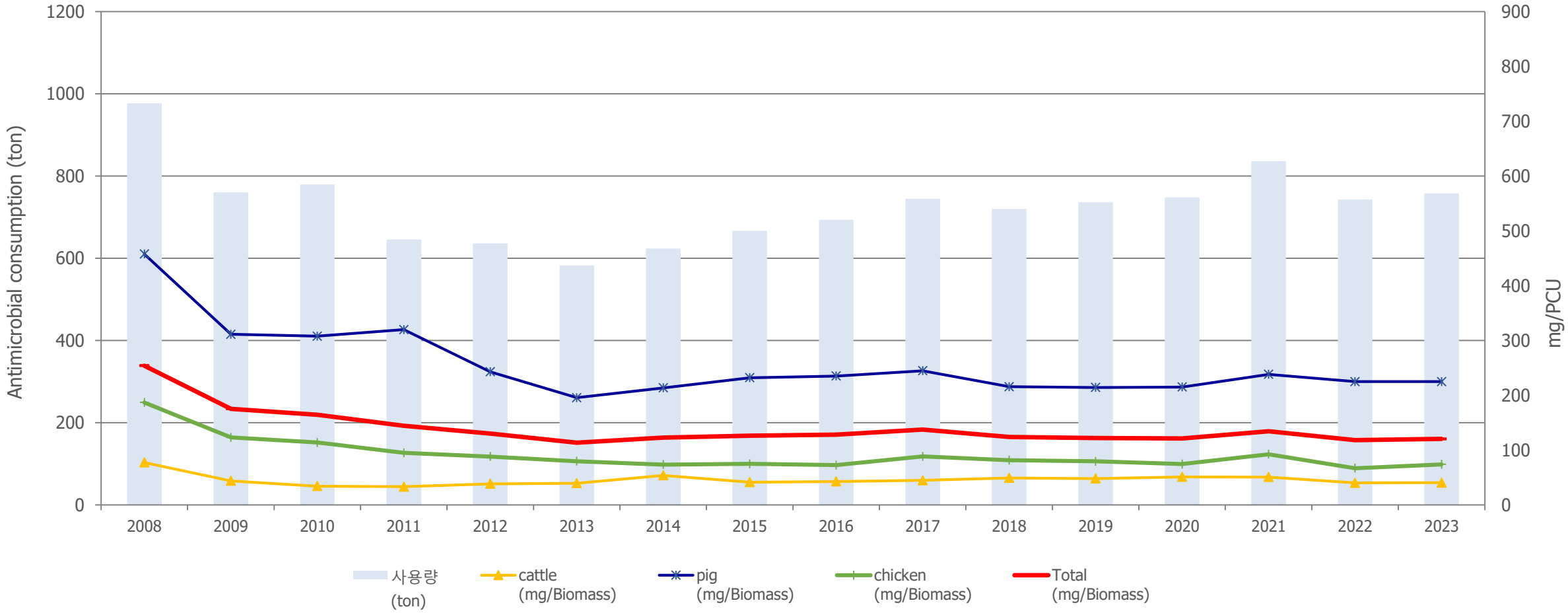
KCDC, Korea Disease Control and Prevention Agency; MAFRA : Ministry of Agriculture, Food and Rural Affairs; MOF, Ministry of Oceans and Fisheries; MFDS, Ministry of Food and Drug Safety; ME, Ministry of Environment; RDA, Rural Development Administration

◆ AMR surveillance in terrestrial animal

Korean Veterinary Antimicrobial Resistance Monitoring System (KVARMS, 2008-)

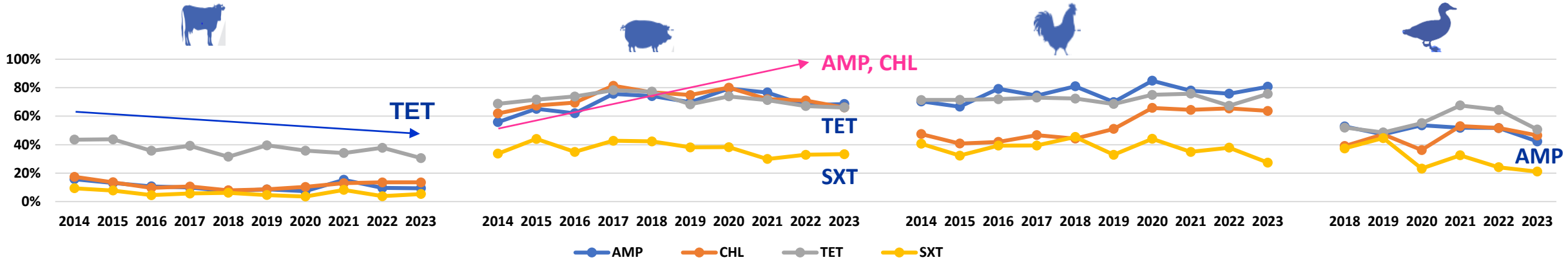


◆ Antimicrobial Consumption (estimate)(1)

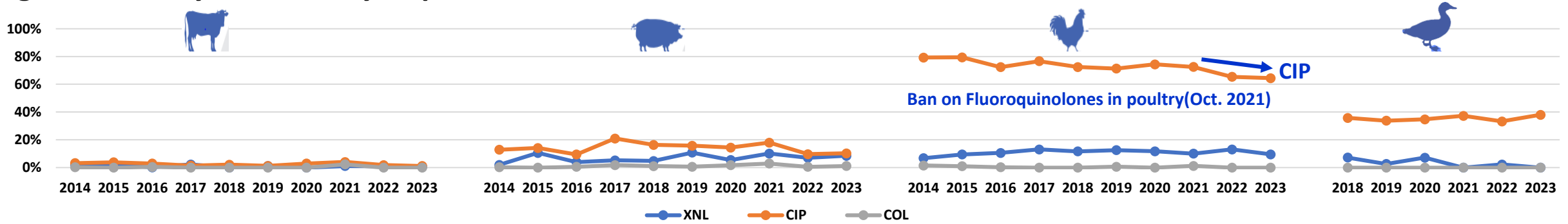


◆ Antimicrobial Resistance in Livestock

Non- Highest Priority of Critically Important Antimicrobials



Highest Priority of Critically Important Antimicrobials

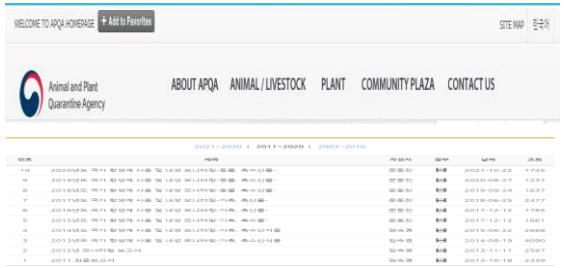


- ✓ Animal species : Higher in pigs and chickens than that of cattle
- ✓ Non-HP CIAs : Decreased tetracycline and trimethoprim/sulfonamides, increased ampicillin and chloramphenicol
- ✓ HP CIAs : Maintained high resistance of ciprofloxacin in chickens

◆ Data in action

Parameter	Contents
Share of findings	Report/publication, online , available for public, sharing –annually Provide data one health portal system
Guidelines	Antimicrobial prescription guidelines for each animal pathogen
Intervention	All antimicrobials can use by veterinary prescription by 11, 2022
	Restriction of use of HP CIAs (fluoroquinolones & 3rd generation cephalosporins) in chicken
Generate policy	Provide the data to decide ban of antimicrobial in feed and veterinary prescription policy

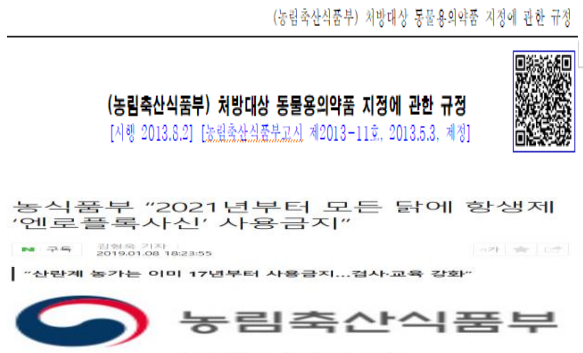
- **APQA/MFDS homepage**



- **One health portal system**

- **Prescription guidelines**

- **Intervention**



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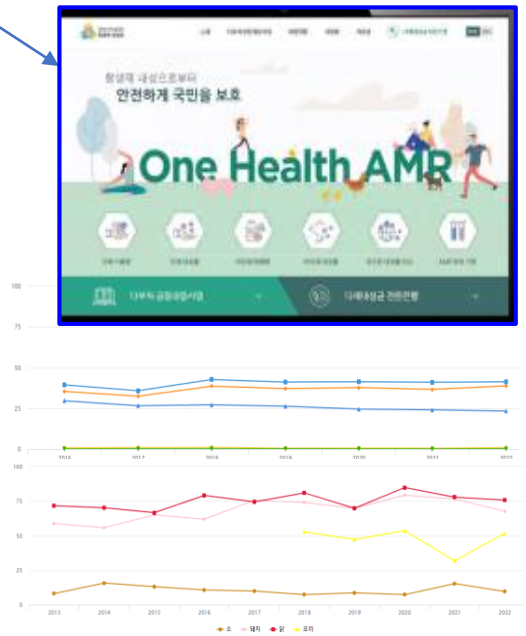
◆ Harmonizatioin and data sharing

Harmonizatioin

Human AMR/AMU

Data

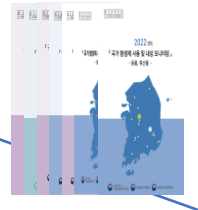
(One Health Portal System, 2019)



(http://nih.go.kr/nohas/)

Data

Harmonization, integrated analysis, and report



Data

Terrestrial animals AMR/AMU

Harmonization of AST

Livestock products AMR

Aquatic animals AMR

Share the data via offline

Environment AMR

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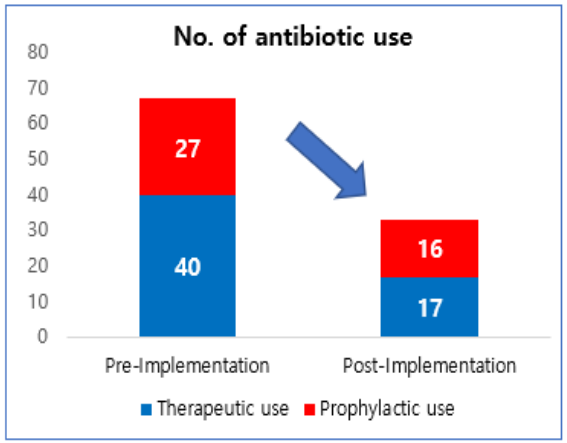
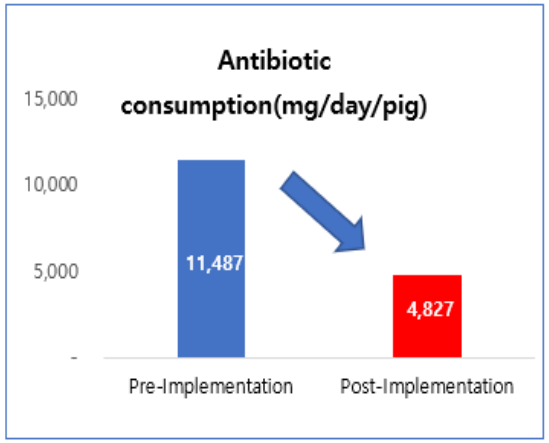
Prudent antimicrobial use

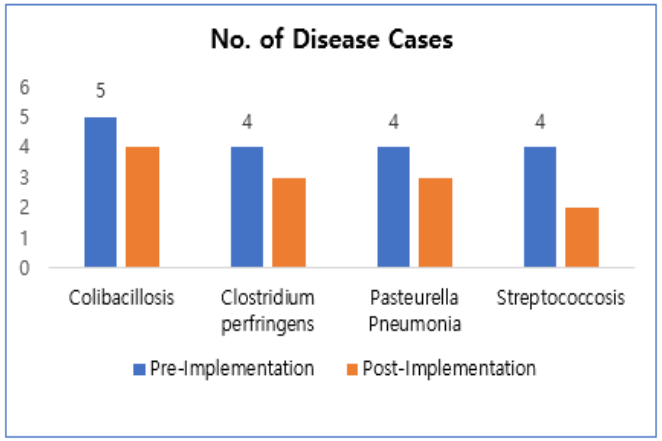
◆ Development of prudent use model in pigs

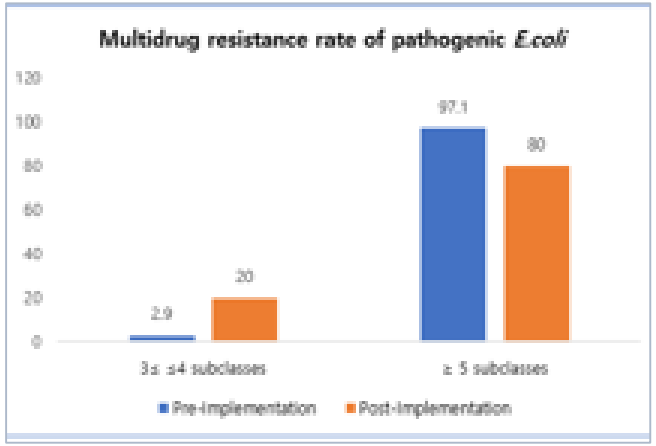
- **Antibiotic Reduction Model**
  - ➢ Implementation of the **veterinary advisory service** contracts
    - Conduct antibiotic susceptibility testing before antibiotic administration
  - ➢ **Reduction** of prophylactic antibiotic use
  - ➢ Application of medicated water system for precise antibiotic administration
- **Environmental Residual Resistant Bacteria Prevention Model**
  - ➢ Applying All-in/All-out system
- **Disease Reduction Model**
  - ➢ Strengthening biosecurity measures and upgrading farm facilities

- ➢ 50.7% reduction in the frequency of antibiotic use (67 to 33 times)
- ➢ 62.7% reduction in the amount of antibiotic use (11,488 to 4,827mg/day/pig)
- ➢ Decrease in disease
- ➢ Decrease in Multidrug Resistance Rate in Pathogenic *E. coli*









◆ Development of Prescription Guidelines

Identifying bacterial disease

↓

Approved antibiotics by disease

↓

Pathogen efficacy

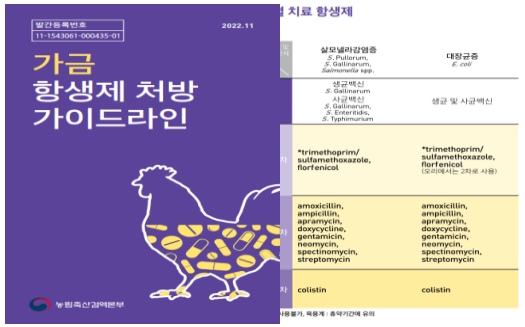
↓

Importance to humans & Animals

↓

Expert Consults

Livestock



Companion Animals

- ✓ Selected the antibiotics 1st, 2nd, 3rd by efficacy against pathogens and importance to animals and humans.
- ✓ Highly important antibiotics were reserved as 3rd line, such as 3rd generation cephalosporins, fluoroquinolones, and colistin.

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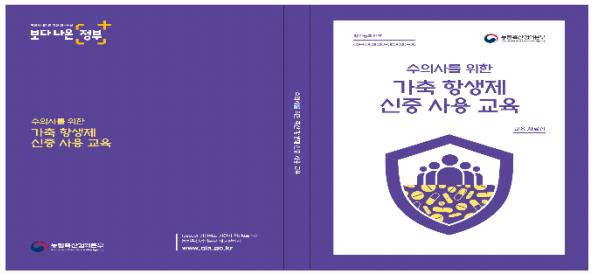
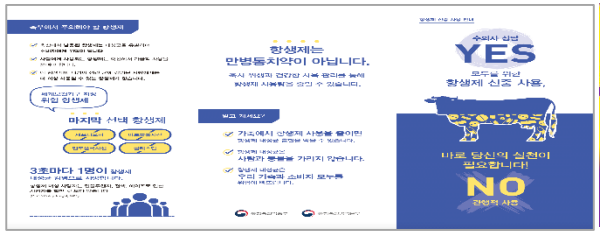
◆ Developing contents for Awareness

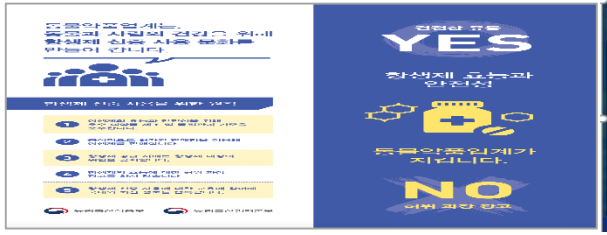
Livestock

Veterinarians



Farmers & Stakeholders





Companion Animals

Veterinarians

Pet owner

- ✓ Raising awareness by on & off-line education to farmers and stakeholders
- ✓ Professional education and training on Vet. for appropriate use and prescription of AMs

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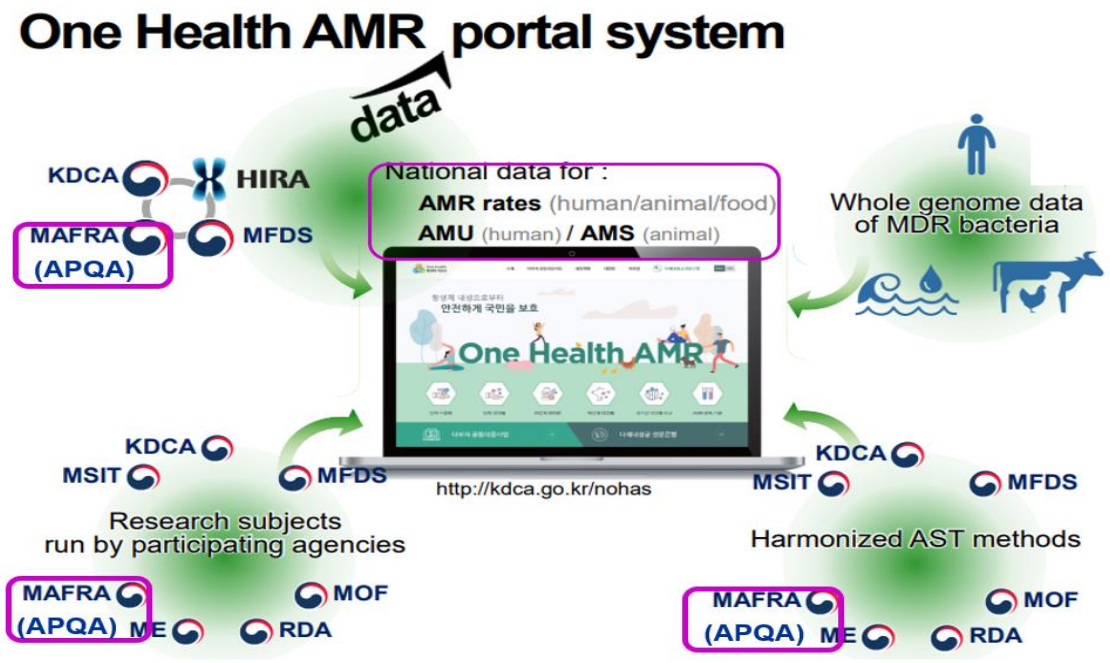
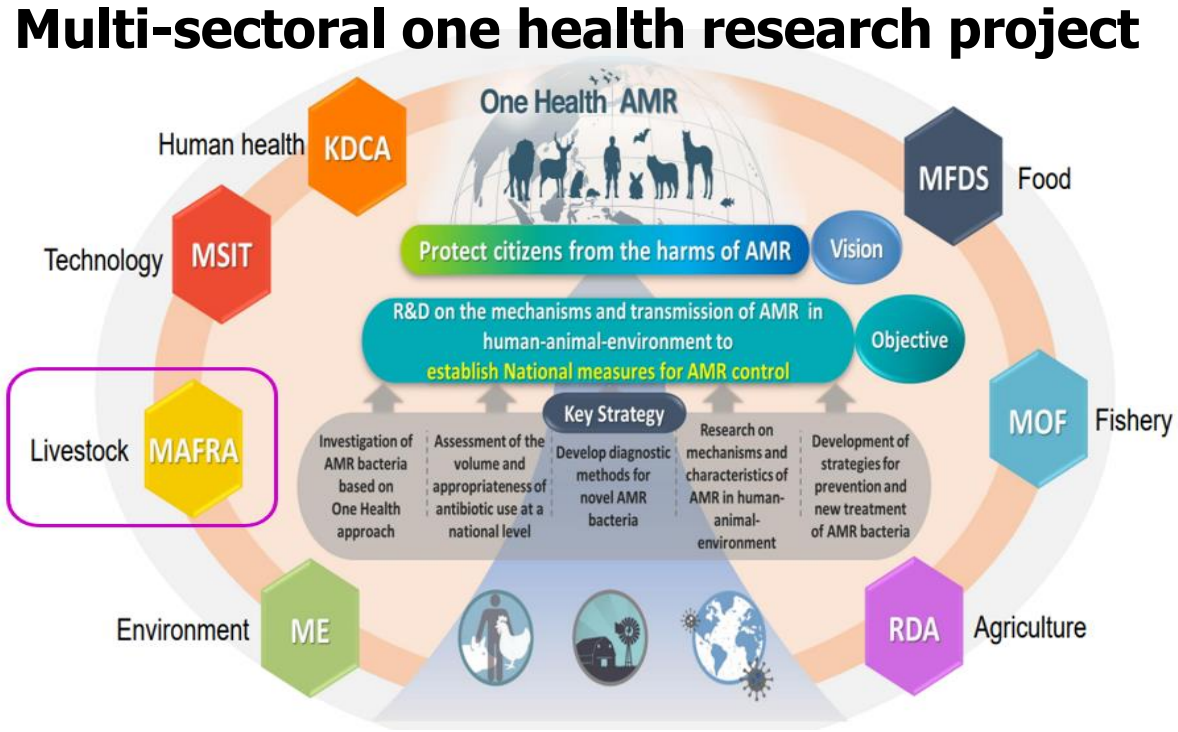
◆ Personnel training for Local Vet. Service

- Introduction of AMR: importance and examples of monitoring etc.
- Laboratory methods : sampling, isolation, stock etc.
- Susceptibility testing for feedback to farms : Disc diffusion

Multisectoral and International cooperation

◆ Multi-sectoral Cooperation





- ✓ Establishment of One Health Portal
- ✓ Integrating of AMU/AMR data and analysis from both humans & animals

- ✓ To foster essential inter-ministerial collaboration (2019-)
- ✓ Investigate and research AMR bacteria based on a One health approach

➢ Enhances understanding and effective response to AMR issues

◆ International cooperation

▪ Annual AMR hands-on training for Asian countries with WOAH RRAP

1st Training
(October, 2023)

2nd Training
(September, 2024)

3rd Training
(Scheduled September, 2025)

World Organisation for Animal Health
Founded as OIE

Ref. No. RRAP/2025/197

21 April 2025

Call for Expression of Interest for Training for AMR Laboratory Experts
(7th -10th July 2025 in Japan and 16th –24th September 2025 in Republic of Korea)

Dear Delegate,
Dear National Focal Point for Veterinary Products,

I am pleased to inform you that WOAH is organising the two training courses for AMR Laboratory Experts in collaboration with **Animal and Plant Quarantine Agency** (APQA) of Republic of Korea and **National Veterinary Assay Laboratory** (NVAL) of Japan in cooperation with **School of Veterinary Medicine, Rakuno Gakuen University** (RGU) of Japan, WOAH Collaborating Centre for Food Safety.

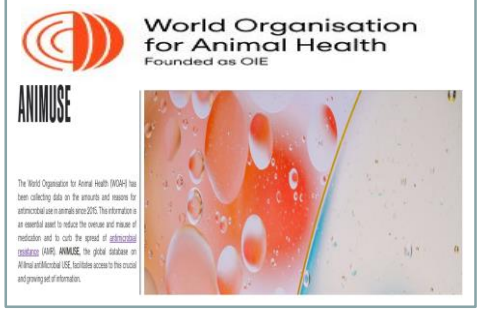
◆ Provide Data to Global DB

KVARMS

Global

AMU

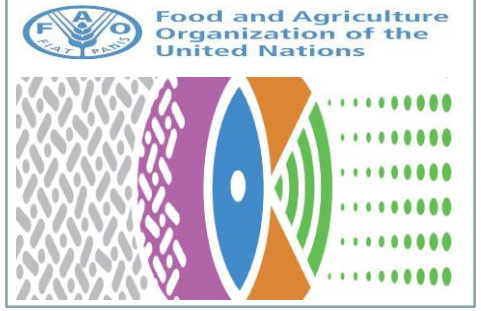
WOAH ANIMUSE
(Global database on AMs intended for use in animals)



(2015 ~)

AMR

FAO InFARM
(International FAO Antimicrobial Resistance Monitoring)



(2024 ~)

Domestic

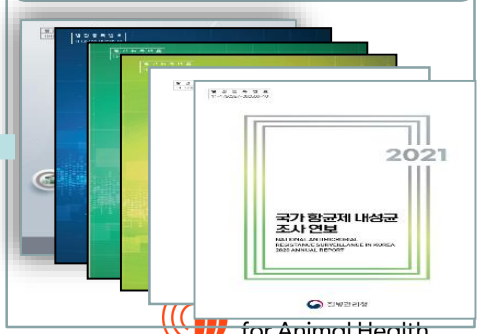
AMU/AMR

Animal and Plant Quarantine Agency

One Health Portal System

(2019 ~)

WHO AMR CC
Human AMR/AMU



for Animal Health

East Asia CVO Meeting 2025

Thank you

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中华人民共和国农业农村部
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