THE UNITED REPUBLIC OF TANZANIA

Ministry of Livestock and Fisheries



National Roadmap for Reducing The Need for Antimicrobials in Poultry Production

2026

Foreword



The Government of the United Republic of Tanzania remains firmly committed to safeguarding public health, animal health, and the sustainability of our agrifood systems. This National Roadmap for Reducing the Need for Antimicrobials in Poultry Production marks a significant step in addressing the growing threats of antimicrobial resistance (AMR), which poses serious risks to human, animal, and environmental health.

This roadmap outlines strategic interventions to reduce reliance on antimicrobials in poultry production through the promotion of preventive measures, including improved biosecurity, vaccination, good husbandry practices, and strengthened surveillance systems. These approaches are fully aligned with Tanzania's National Action Plan on Antimicrobial Resistance (2023–2028) and the broader One Health framework, ensuring coordinated and multisectoral action.

Poultry production plays a vital role in Tanzania's economy, food security, and livelihoods. However, the increasing use of antimicrobials in this subsector threatens these gains by contributing to the emergence and spread of resistant bacteria. This roadmap therefore provides a structured and coordinated framework to address these challenges, while enhancing productivity, food safety, market competitiveness and economic development.

The Government calls upon all stakeholders, including farmers, veterinary and livestock professionals, private sector actors, researchers, Development Partners, Financial Institutions and Poultry inputs dealers, and other Poultry Value Chain Actors to actively support and participate in the implementation of this roadmap. Through collective action and sustained commitment, we can reduce antimicrobial dependence, safeguard the effectiveness of life-saving medicines, and build resilient and sustainable agrifood systems for present and future generations.

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Permanent Secretary

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The development of this National Roadmap for Reducing the Need for Antimicrobials in Poultry Production has been made possible through the collective efforts and strong collaboration of a wide range of stakeholders.

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Abbreviations and Acronyms

Abbreviation	Meaning
ADI	Acceptable Daily Intake
AMC	Antimicrobial Consumption
AMR	Antimicrobial Resistance
AMU	Antimicrobial Use
ANIMUSE	ANImal antiMicrobial USE
DVO	District Veterinary Officer
DVS	Director of Veterinary Services
ESBL	Extended Spectrum β-Lactamase
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FAO – ATLASS	FAO Assessment Tool for Laboratories and AMR Surveillance System
FBO	Faith-Based Organization
FFS	Farmer Field Schools
GAP	Good Agricultural Practices
GARP	Global Antimicrobial Resistance Partnership
GDP	Gross Domestic Product
GHSA	Global Health Security Agenda
GLASS	Global Antimicrobial Resistance and Use Surveillance System
JEE	Joint Entrance Examination
IACG's	Inter-agency Coordination Group
IBD	Infectious Bursal Disease
ICT	Information and Communication Technology
IEC	Information, Education, and Communication
IHR	International Health Regulation
InFARM	International FAO Antimicrobial Resistance Monitoring
IPC	Infection Prevention and Control
ISAVET	In-Service Applied Veterinary Epidemiology Training
KAP	Knowledge, Attitude and Practice
LFO	Livestock Field Officer
LGAs	Local Government Authority
LIS	Laboratory Information Systems
LITA	Livestock Training Agency
MCC	Multi-Sectoral Coordination Committee
MLF	Ministry of Livestock and Fisheries
MRL	Maximum Residual Limit
M & E	Monitoring and Evaluation
NAP	National Action Plan

Abbreviation	Meaning
NEVML	National Essential Veterinary Medicine List
NM-AIST	Nelson Mandela – African Institute of Technology
NPVF	National Poultry Veterinary formulary
NSTGAD	National Standard Treatment Guidelines for Animal Diseases
PAT	Poultry Associations of Tanzania
PMO-RALG	Prime Minister Office – Regional Administration and Local Government
PPE	Personnel Protection Equipment
RENOFARM	Reduce the Need for Antimicrobials on Farms for Sustainable Agrifood Systems
RS	Regional Secretariat
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
SWOT	Strength, Weakness, Opportunities and Threat
SUA	Sokoine University of Agriculture
TALIRI	Tanzania Livestock Research Institute
TMDA	Tanzania Medicines and Medical Devices Authority
TOT	Training of Trainers
TVLA	Tanzania Veterinary Laboratory Agency
TWG	Technical Working Group
USD	United States Dollar
VCT	Veterinary Council of Tanzania
WAAW	World Antimicrobial Resistance Awareness Week
WHO	World Health Organization
WOAH	World Organization for Animal Health
ZVCs	Zone Veterinary Centers
µ/g	Microgram

Executive summary

The *National Roadmap for Reducing the Need for Antimicrobials in Poultry Production* provides a strategic framework for Tanzania to address antimicrobial resistance (AMR) within the rapidly growing poultry sector. Developed through a highly consultative process involving government institutions, research bodies, private sector actors, and development partners, the roadmap adopts the "reduce the need" principle under the FAO-led RENOFARM initiative and applies its Farm 5Gs framework, which promotes strengthened animal health services, improved production practices, effective alternatives to antimicrobials, enhanced surveillance and information systems, and incentives that reward responsible practices. It operationalizes Tanzania's commitments under the *National Action Plan on AMR (2023–2028)* and aligns with global efforts to transform agrifood systems.

Poultry production is a critical component of Tanzania's agrifood system, contributing significantly to food security, livelihoods, and economic growth. However, increased intensification has led to widespread and often inappropriate use of antimicrobials, contributing to rising AMR risks. Evidence indicates high levels of antimicrobial residues in poultry products and increasing resistance in key pathogens pose serious threats to public health, animal health, and trade.

The roadmap adopts a prevention-focused and systems-based approach, recognizing that reducing disease incidence is the most effective way to minimize reliance on antimicrobials. It targets the entire poultry value chain— from input suppliers to farmers, service providers, and processors—and will initially be implemented in selected regions as pilot areas for scale-up.

The overall goal is to reduce the need for antimicrobials in poultry production while maintaining productivity and profitability. Key targets include reducing the use of medically important antimicrobials by 30% by 2030, increasing vaccine coverage by 75%, and strengthening antimicrobial stewardship, diagnostics, and farmer adoption of alternative practices.

To achieve this, the roadmap focuses on five strategic objectives:

1. **Enhancing awareness and promoting responsible antimicrobial use**
2. **Strengthening diagnostics, surveillance, and data systems**
3. **Improving biosecurity and poultry husbandry practices**
4. **Promoting antimicrobial stewardship and alternatives**
5. **Strengthening policy, regulatory frameworks, and economic incentives**

Implementation will be supported through 14 priority actions, including capacity building, regulatory enforcement, surveillance systems, research and innovation, and farmer incentive mechanisms. A robust monitoring and evaluation framework will guide progress and ensure accountability.

By shifting from reactive treatment to preventive health systems, this roadmap aims to safeguard public health, improve food safety, enhance productivity, and support sustainable and resilient poultry production. It represents a critical step in advancing Tanzania's One Health approach and contributing to global efforts to combat antimicrobial resistance.

Scope of the National Roadmap

This National Roadmap outlines the scope of Tanzania's implementation of the FAO RENOFARM initiative within the poultry sector. It serves as a sector-specific framework for operationalizing the country's commitments under the National Action Plan on Antimicrobial Resistance (2023–2028), emphasizing prevention-driven and system-level interventions to reduce reliance on antimicrobials. The roadmap is aligned with national livestock, animal health, and food safety policies, and contributes to the advancement of Tanzania's One Health approach to addressing antimicrobial resistance.



Figure 1: *Healthy, well-nourished poultry are less susceptible to disease, contributing to reduced reliance on antimicrobials.*

The roadmap will initially be implemented in six selected regions constituting most of the poultry productions in Tanzania Mainland, representing diverse poultry production systems. These regions are Dar es Salaam, Dodoma, Pwani, Mbeya, Arusha/Kilimanjaro, and Morogoro. Eventually the initiative will be scaled up for implementation in other regions.

A total of 12 districts/municipal councils in the mentioned regions where the roadmap will be implemented are as follows:

a) Dar es Salaam Region: Ilala, Temeke, Kinondoni, Kigamboni, and Ubungo Municipal Councils

b) Dodoma Region: Dodoma Municipal Council

c) Pwani Region: Kibaha Town Council and Kibaha District Council

d) Mbeya Region: Mbeya Municipal Council

e) Kilimanjaro/Arusha – Moshi/Arumeru

f) Morogoro Region: Morogoro Municipal Council

Although geographically located in Kilimanjaro Region, Moshi Municipal has been purposely included due to its high level of commercial poultry production. For implementation purposes, it will be grouped within the Arusha/Kilimanjaro cluster. These regions will serve as pilot and scale-up zones for reduced need for antimicrobial use (AMU) reduction interventions, with potential for replication at the national level. The roadmap will cover the entire poultry value chain, including input suppliers (chicks, feed, veterinary drugs); commercial poultry farmers; animal health service providers (veterinarians, paraprofessionals); and processors and distributors.

The roadmap aligns activities with Tanzania's National Action Plan on AMR (2023–2028) and Tanzania Poultry Development Strategic Plan (2026–2036). Areas of focus for the roadmap include the following:

a) Disease Prevention and Biosecurity

- Strengthening farm-level biosecurity systems; promoting vaccination programs tailored to local disease burdens; and improving hygiene, housing, and farm management practices

b) Antimicrobial Stewardship (AMS)

- Promoting prudent and responsible use of antimicrobials; enforcing prescription-only access to veterinary antimicrobials; developing and disseminating treatment guidelines; and training farmers and animal health professionals

c) Surveillance and Monitoring

- Establishing systems to track antimicrobial use and resistance patterns; strengthening laboratory and diagnostic capacity; and monitoring drug residues in poultry products

d) Capacity Building and Behavior Change

- Farmer training in good poultry husbandry practices; awareness campaigns on AMR risks and food safety; and strengthening extension and advisory services

e) Strengthening Veterinary and Input Systems

- Improving access to quality veterinary services; regulating veterinary drug supply chains; and promoting quality inputs (vaccines, feed, biosecurity materials)

f) Research and Innovation

- Supporting operational research on alternatives to antimicrobials; evaluating cost-effective disease prevention strategies; and promoting innovations such as probiotics and improved breeds

The roadmap will involve:

- Government ministries (Livestock, Health, Environment); research institutions and universities; private sector (pharmaceutical companies, poultry industry); farmers organizations and cooperatives development partners (e.g., FAO and international initiatives)

The roadmap will be implemented in a period of five years (2026-2030) with short and mid-term evaluations in between to gauge the project implementation status.

A glance at the global initiative of reducing the need for antimicrobials in Agrifood Systems

Reducing the development of antimicrobial resistance without jeopardizing animal health thus requires both the responsible use of antimicrobials where they remain necessary, and parallel efforts to reduce the incidence of bacterial disease that necessitates antimicrobial treatment. Preventing infections in the first place is the most effective strategy for minimizing the need for antimicrobials.

Because resistance, like disease, knows no border, managing the risks associated with antimicrobial resistance must therefore be a global priority. To this end, several initiatives have coordinated global efforts to reduce the need for antimicrobials and improve responsible use. For example, the Global Leaders Group (GLG) on Antimicrobial Resistance has an action plan for six priority areas, including advocating for increased innovation to develop new products and tools that reduce the need for antimicrobials.



Figure 2: *Routine flock health monitoring and enhanced biosecurity are key strategies for preventing diseases and reducing antimicrobial dependence in poultry systems.*

In 2024, FAO launched a 10-year initiative abbreviated as RENOFARM[1] (Reduce the Need for Antimicrobials on Farms for Sustainable Agrifood Systems Transformation), which is an action-oriented and country-focused initiative that is strategically embedded in the global agrifood systems transformation, engaging the entire production chain and strengthening public-private partnerships across the board in reducing the need for antimicrobials in a substantial, proportionate, and sustainable manner. Central to this initiative is the application of the Farm 5Gs framework—Good Health Services, Good Production Practices, Good Alternatives, Good Connections, and Good Incentives—which will be integrated into implementation to strengthen animal health systems, promote prevention-based production, enhance surveillance and information sharing, and incentivize responsible practices across the poultry value chain. The initiative aligns with achieving the 2030 Agenda and Sustainable Development Goals by improving food safety and sustainability.

This global effort focuses on improving animal health, biosecurity, and vaccination to reduce reliance on antimicrobials in livestock, targeting 100 countries to strengthen policies and sustainable practices. Furthermore, industry sales data show that antimicrobials are the smallest product category within the animal health space, and their share has steadily declined over the past decade.

In 2013, antimicrobials were 20.9% of animal health sales, while in 2022 this fell to 12.7%. This is a 39% decline in antimicrobial's share of animal health product sales over the past decade[2]. Sales data also shows that as antimicrobial sales fall, vaccine sales rise. This indicates that replacing treatment with prevention is an effective way to reduce the need for antimicrobials. Notably, the greatest reductions in antimicrobial use in animals in recent years have also been made in those deemed "critically important" by the WHO. For instance, polypeptide use, which includes Colistin, a drug of last resort, declined 62 per cent between 2016 and 2018[3].

1 https://www.fao.org/antimicrobial-resistance/news-and-events/news/news-details/en/c/1629402/
2 https://www.healthforanimals.org/reports/global-trends-in-animal-antibiotic-use/
3 https://www.woah.org/app/uploads/2022/06/a-sixth-annual-report-amu-final.pdf

In markets that monitor and report antimicrobial resistance, including the UK through its Veterinary Antimicrobial Resistance and Sales Surveillance (VARSS) and the European Union via its European Antimicrobial Susceptibility Surveillance in Animals (EASSA) study, levels of drug-resistant disease among livestock remains low[4, 5].

However, significant potential remains for further reductions in animal disease levels, particularly in low-income countries, both to prevent the need for antimicrobials and to reduce the impact of livestock losses. A growing volume of evidence indicates that preventative tools, such as vaccination, biosecurity, and deworming treatment can bring down the need for antimicrobials. For example:

- Improved animal health measures – such as biosecurity, vaccination, and anthelmintic therapy – led to a reduction in antimicrobial use of 52 per cent in pigs from birth until slaughter, and 32 per cent for breeding animals, according to a study in Belgium[6].
- Farm biosecurity levels were positively associated with a reduction in antimicrobial use across more than 50 per cent of results in a review of 27 studies[7].
- Strong external biosecurity, including purchasing policy, location, and environment, was linked to lower antimicrobial use in a study of German pig farms[8].
- Vaccines are among the top five alternative approaches to using antimicrobial agents, according to a study of pig production[9].

Proven animal health tools can prevent diseases that would otherwise require antimicrobial treatment. Not only does this reduce the risk of antimicrobial resistance, but it also reduces the cost, burden and losses associated with animal illness and treatment. This is particularly important for low-income countries, where livestock diseases have a disproportionate impact on communities and economies. Countries should encourage producers to adopt more disease prevention tools and practices as a proven roadmap to reduce the need for on-farm antimicrobials and help meet the goals of the RENOFARM.

4 Veterinary Medicines Directorate (2025). UK Veterinary Antibiotic Resistance and Sales Surveillance Report (UK-VARSS 2024). New Haw, Addlestone: VMD. https://assets.publishing.service.gov.uk/media/69808c61ec71a16669612dd9/UK-VARSS_2024_Report.pdf

5 European Antimicrobial Susceptibility Surveillance in Animals (EASSA) programme.

6 Pig Progress (2016). Study: 52% antibiotic reduction in pig production. https://pigprogress.net/pigs/study-52-antibiotic-reduction-in-pig-production

7 Dhaka P. et al. (2023). Can Improved Farm Biosecurity Reduce the Need for Antimicrobials in Food Animals? A Scoping Review. Antibiotics. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10215210/

8 Raasch S. et al. (2018). Association between antimicrobial usage, biosecurity measures as well as farm performance in German farrow-to-finish farms. Porcine Health Management. https://doi.org/10.1186/s40813-018-0106-5

9 Postma M. et al. (2015). Alternatives to the use of antimicrobial agents in pig production: a multi-country expert-ranking of perceived effectiveness, feasibility and return on investment. Preventive Veterinary Medicine. https://doi.org/10.1016/j.prevetmed.2015.01.010

1.0. INTRODUCTION

1.1. National Context of the Agrifood Sector

The agrifood sector is the backbone of the economy of Tanzania, contributing approximately 30% of the national Gross Domestic Product (GDP) and employing about 67% of the population. Within this sector, livestock production plays a critical role, contributing to about 7% of GDP and support livelihoods for nearly 33% of the population[10]. Poultry production is one of the most widespread and rapidly growing subsectors, with an estimated population of over 108.2 million chickens and about 4.6 million households engaged in poultry production. The poultry subsector significantly contributes to food and nutrition security, income generation, and employment. Women and youths are the groups in the communities mostly engaged in poultry production in Tanzania[11].

Poultry production systems in Tanzania range from traditional extensive scavenging systems dominated by indigenous chickens to semi-intensive and intensive commercial systems. Traditional systems are mostly in rural and peri-urban areas, and almost each household has at least 5 – 10 chickens, ducks or other poultry species. The local scavenging chickens are characterized by low inputs and productivity, are easily raised with minimal cost of production, resistant to several disease conditions, and are the reliable sources of cash, protein, manure, and traditional values. However, the local scavenging chicken suffers from slow growth rate, poor productivity indices characterized by high chick mortalities, low eggs per clutch and poor hatchability, high burden of diseases and pests. Commercial poultry production is expanding rapidly, driven by increasing urbanization, rising incomes, and growing demand for animal-source foods and requirements for white meat.



Figure 3: *Promote access to clean drinking water and optimal nutrition to improve poultry health and reduce antimicrobial demand.*

Over the past decade, Tanzania's commercial poultry production has surged; from 2012/13 to 2023/24, egg production rose from 3.7 to 6.41 billion, and broiler meat from 87,408 to 132,442.3 tons. The average annual growth rate of commercial poultry is 6.4% and the current population is estimated at 58.5 million[12]. The common commercial poultry raised in Tanzania include broilers, layers and dual-purpose hybrids namely Kuroiler and Sasso. Despite progress, the sector faces challenges like climate stress, poor productivity, diseases, unreliable quality feed availability, unreliable markets, and poor extension services. The rise in commercial poultry production is accompanied by increased intensification and limited husbandry practices which have resulted in increased health problems and farmers always opt for uses of antimicrobials. The increased use of antimicrobial agents poses a public health threat through contaminated broiler meat, eggs, and the manure that is released to the environment.

1.2. Threats of Antimicrobial Resistance to Poultry Production

Antimicrobial Resistance (AMR) is a growing one health threat, affecting humans, animals, and environmental health globally. It arises when bacteria become resistant to antimicrobial agents due to natural evolution accelerated by human activities, particularly the misuse and overuse of antimicrobials in humans, animals, and agriculture.

10 https://ageconsearch.umn.edu/record/212039/files/Legesse The%20Role%20of%20Livestock%20in%20the%20Tanzanian%20Economy-98.pdf

11 https://www.researchgate.net/publication/358716716_Smallholders_Livestock_Keepers_Breeding_Choice_and_Its_Implication_on_Poverty_Reduction_in_Tanzania/fulltext/6374bf742f4bca7fd0666aba/Smallholders-Livestock-Keepers-Breeding-Choice-and-Its-Implication-on-Poverty-Reduction-in-Tanzania.pdf

12 Ministry of Livestock and Fisheries report, 2024

Imprudent use of antimicrobials in poultry production serves as pressure factors for emergence of antimicrobial resistance (AMR).

Presence of antimicrobial residues in food is a growing concern due to their potential to cause serious health issues, including allergic reactions, nephrotoxicity, hepatotoxicity, and antimicrobial resistance on treatment. Evidence supports the spread of microorganisms resistant to antibiotics from animals to humans or vice versa through direct contact or environment. It is estimated that the global human deaths associated with AMR will increase from 4.71 million in 2021 to 8.22 million in 2050 (Antimicrobial Resistance Collaborators, 2021). Although AMR challenges are evident worldwide, the threat is of particular concern in the developing countries, notably Africa, where the burden remains the highest.

Studies in Tanzania have reported a prevalence of antibiotic residues of up to 100% and the residue concentrations in eggs ranges between 0.103 – 1655 µ/g[13]. A similar situation is realized in chicken meat with prevalence of antimicrobial residues between 50% and 100% with average concentrations between 0.1 and 154.4 µg/kg of meat. Most of these values exceed the maximum residue limit (MRL) and the acceptable daily intake (ADI) as set by Codex Committee, Food and Agricultural Organization and World Health Organization (FAO/WHO) and the European Union (EU). Annually, Tanzania uses more than 1.2 million kilograms of antimicrobials to support poultry production. Unless deliberate measures on good poultry husbandry practices, vaccination and biosecurity measures are taken, it is projected that by 2030, antimicrobial use in poultry production is expected to rise by 25%. This is evidenced by increasing trends of the common poultry diseases like Newcastle Disease, fowl typhoid, Infectious Bursal Disease (Gumboro), infectious coryza and fowl pox necessitates farmers to use antimicrobials[14].

In Tanzania, increasing resistance to commonly used antibiotics has been reported in both human and animal sectors, raising concerns about treatment failures, reduced productivity, food safety risks, and increased healthcare costs. Poultry products are recognized as a key roadmap for the transmission of resistant pathogens such as *Salmonella* and *Escherichia coli* to humans. Studies in livestock show that the prevalence of multi drug resistant *E. coli* is up to 86.8% among isolates from broiler and layer chickens with highest resistance rates in Tetracycline (95%) and ciprofloxacin (72%). Further, most chicken borne bacteria like Enterobacteriaceae, *Campylobacter* and *Salmonella* have shown significantly high resistance rates to commonly used antimicrobials in groups of tetracyclines, Sulfonamides/Trimethoprim, Penicillin, aminoglycosides macrolides, dihydrofolate and Quinolones/Fluoroquinolones[15]. Multidrug resistant bacteria, such as extended spectrum β-lactamase (ESBL) producer Enterobacteriaceae pose serious threats to human and animal health (including poultry) as well as contamination of the environment[16]. Further, multidrug resistant bacteria can cause significant public health problems, food security, and loss of economy.

Assessments such as the WHO Joint External Evaluation (JEE) and WOAH Performance of Veterinary Services (PVS) have highlighted progress in governance and coordination, but also identified key gaps in laboratory capacity, surveillance coverage, and enforcement of regulations. The AMR situational analysis conducted through the Global Antimicrobial Resistance Partnership (GARP) Tanzania Working Group in 2015 established gaps which might be responsible for contributing to AMR. The GARP analysis recommended reduction of antimicrobial use in livestock, and immediate action on antimicrobial use to minimize risks of AMR. Further, assessment conducted in 2016 by Global Health Security Agenda (GHSA) using the international health regulation (IHR) Joint External Evaluation (JEE) tool placed Tanzania scale of 1-4 where 1 indicates no capacity, 2 indicates limited capacity, 3 indicate developed capacity and 4 indicates demonstrated capacity respectively. Laboratory capacity on AMR detection (score=1) and food safety (score =2) is among many areas that are considered of high priority for combating AMR in the United Republic of Tanzania[17]. All these gaps necessitate the country to implement measures aimed at minimizing imprudent uses of antimicrobials in livestock, in particular poultry production[18].

13 https://doi.org/10.1111/j.1863-2378.2008.01226.x

14 https://doi.org/10.3390/ijerph18168496

15 https://pubmed.ncbi.nlm.nih.gov/33923689/

16 https://www.mdpi.com/2079-6382/10/2/106#

17 https://www.who.int/publications/i/item/9789240101296

18 National antimicrobial resistance multisectoral coordination committee (MCC) report, 2024

1.3. Drivers Exacerbating the Threat of Antimicrobial Resistance to Poultry Production

Poultry production is one of the fastest-growing livestock subsectors in Tanzania. However, intensive management practices and inappropriate use of antimicrobials exacerbate AMR in the poultry sector. Several key drivers are accelerating the emergence and spread of AMR in poultry systems:

a) Inappropriate and excessive antimicrobial use

- Administering antimicrobials to healthy flocks to prevent disease and promote growth creates constant low-level exposure, which is a major driver of resistance.
- Many poultry producers use antimicrobials deemed "critically important" for human medicine, such as fluoroquinolones, macrolides, and colistin, for disease prevention.
- Antimicrobials are sold over the counter and used without veterinary diagnosis, leading to incorrect dosing and the continued use of inappropriate drugs[19].
- The use of long-acting antimicrobials in feed or in ovo (in the egg) administration has been linked to increased resistance.

b) Low awareness and behavioral factors

Awareness of AMR risks among farmers, poultry farmers, and even some professionals remain low:

- Limited understanding of withdrawal periods and drug residues
- Misconceptions about antimicrobials as a “quick fix”
- Economic pressures encouraging preventive or routine use

c) Poor biosecurity and hygiene practices

Inadequate husbandry practices increase disease incidence and antimicrobial dependence: poor poultry housing; overcrowding of poultry on the farm; poor hygiene and sanitation; inadequate vaccination coverage; and weak biosecurity measures (e.g., uncontrolled movement and waste disposal)[20]

d) Weak diagnostic and laboratory capacity

Limited access to diagnostic services; poultry farmers and practitioners cannot identify the correct pathogen or appropriate drug; and surveillance data on AMR and AMU remain insufficient[21]. This results in overuse or misuse of broad-spectrum antimicrobials.

e) Limited Alternatives to Antimicrobials

The high cost and limited accessibility of alternatives (e.g., vaccines, probiotics) push farmers toward cheaper, readily available antimicrobials as a quick fix. There is limited research work on the use of alternative antimicrobials

f) Weak regulatory enforcement and informal drug markets

The sale of veterinary drugs in Tanzania is regulated by the Tanzania Medicines and Medical Devices Authority (TMDA) under the Tanzania Medicines and Medical Devices Act, Cap 219. Additionally, Veterinary Council of Tanzania (VCT) under The Veterinary Act Cap 319 registers and regulates veterinary medicine outlets. Sale of antimicrobials is restricted to prescriptions and only registered premises, such as veterinary centers, clinics, hospitals and animal health companies can sell veterinary medicines. However, legislation enforcement remains limited:

- Easy access to veterinary drugs over the counter without prescription
- Widespread informal sales through veterinary shops and unlicensed vendors in open markets

19 https://pubmed.ncbi.nlm.nih.gov/33923689/
20 https://dx.doi.org/10.36380/jwpr.2021.9
21 https://onlinelibrary.wiley.com/doi/10.1002/vms3.435

- Veterinary drugs are sold over the counter
- Questionable quality of medicines and vaccines
- Limited records of expired or damaged medicines and vaccines
- Expensive questionable quality of service for profit making

g) Limited veterinary and extension services

Many poultry farmers have limited access to qualified animal health professionals, leading to:

Self-diagnosis and treatment of poultry diseases; reliance on advice from medicine sellers rather than professionals like veterinarians and paraveterinarians; and limited guidance on prudent AMU and alternative disease control measures[22]

h) Unprofessionally and unrecognized veterinary personnel (Vishoka)

Unregistered, not enrolled or not enlisted personnel; unethical and unprofessional conduct; and perform misconduct & malpractice **i) Market pressure of poultry products** Failure to observe withdrawal periods and fear of losses. These contribute so much to inappropriate antimicrobial selection and misuse in the poultry sector.

1.4. Initiatives to Address Antimicrobial Resistance in Tanzania

Tanzania has made notable progress in addressing AMR through a One Health approach. The cornerstone of Tanzania's response is the **National Action Plan NAP AMR (2017-2022 & 2023–2028)** aligned with the global action plan on AMR (latest updated version:https://apps.who.int/gb/ebwha/pdf_files/WHA79/A79_5Add2-en.pdf**)**. The revised NAP-AMR 2023-2028 incorporate six strategic objectives which aims to; strengthen coordination, collaboration and governance for NAP on AMR implementation; create awareness and understanding of antimicrobial resistance through effective information, education and communication; strengthen the knowledge and evidence base through surveillance and research; reduce the incidence of infection through effective sanitation, hygiene, infection prevention, and on-farm biosecurity; optimize the use of antimicrobial medicines in human and animal health; and develop the economic case for sustainable investment that takes into accounts the needs to increase investments in new medicines, diagnostics tools, vaccines and other interventions.

In the poultry sector, targeted interventions focusing on improved biosecurity, vaccination, and responsible antimicrobial use are being promoted to reduce reliance on antimicrobials and mitigate AMR risks. Livestock Field Officers (LFOs), both public and private, were trained to provide technical guidance to farmers on biosecurity and biosafety practices. Also, the Ministry of Livestock and Fisheries (MLF), in collaboration with the FAO, conducted biosecurity training for broiler keepers (on-farm training) using the Farmers Field School (FFS) approach. A total of 9,071 broiler keepers from 3 municipalities and 3 councils, representing 186 groups, were trained on broiler production without the use of antimicrobials. The training demonstrated that all farmers who participated in the hands- on sessions achieved a 95% reduction in infections among their broilers. Additionally, between 2020 and 2025 LITA, TALIRI, IRVINS and other stakeholders trained hundreds of farmers on good poultry husbandry practices, biosecurity, vaccination, and responsible antimicrobial uses in poultry production.

Also, during the implementation of NAP-AMR, five (5) regulatory frameworks were developed and reviewed as follows:

a) Animal Diseases (Animals and Animal Products Movement Control) (Amendment) GOVERNMENT NOTICE NO. 32 published on 30/1/2026, aiming to protect medically important antimicrobials.

b) The Animal Disease (Vaccine and Vaccination) Regulation, 2020: Mandatory vaccinations against priority diseases.

c) The Animal Disease (Acaricide Application and Management) Regulation, 2020; Mandatory dipping in acaricides.

22 https://www.frontiersin.org/journals/veterinary-science/articles/10.3389/fvets.2021.645851/full

d) Development of two Regulations of Import and Export of Animal Feed Resources which require biosecurity certificates from importers and Regulations for Registration of Animal Feed Resources Product. Both Regulations are under the Grazing Land and Animal Feed Resource ACT (CAP. 180) 2022.

Other important initiatives include the development of the Good Husbandry Practices Guidelines for Small Animals (2020), The Standard Treatment Guidelines for Animal Diseases (STGAD), 2025; National Antimicrobial Stewardship Operational Guidelines for Veterinary 2025 and National Essential Veterinary List (NEVML), 2025. In addition, several programs have been implemented to enhance antimicrobial resistance (AMR) containment, including those supported by the Fleming Fund and other development partners.

1.5 Strength, Weakness, Opportunities and Threat (SWOT) Analysis of Poultry Production in Tanzania

Tanzania's poultry sector is an important and fast-growing component of the agricultural economy, contributing to food security, nutrition, and household incomes. The poultry sector is at a critical junction where intensification has led to over-reliance on antimicrobials. Immediate action through improved farm management, enforcement of medicine legislations, awareness campaigns and change of behavior is necessary to manage the threat of AMR. Below is a structured SWOT analysis highlighting key internal and external factors.

Table No 1: SWOT Analysis

INTERNAL FACTORS	
STRENGTHS +	**WEAKNESSES -**
a) Poultry meat and eggs are widely consumed, affordable, and culturally accepted across rural and urban populations. b) Poultry offers rapid turnover compared to other livestock, making it attractive for smallholder farmers and investors. c) Entry barriers are lower compared to other livestock sectors, encouraging youth and women participation. d) A short growth cycle for broilers allows for quick turnover. e) Poultry is prioritized in national livestock development strategies. f) Poultry production requires a small space.	a) Widespread prophylactic use of antimicrobials, improper antimicrobials, dosing, duration, and failure to observe withdrawal periods. b) Weak enforcement of legislation governing antimicrobial distribution, sale and use. c) Lack of proper vaccination and hygiene measures increases disease burden. d) Limited awareness and knowledge among farmers and value chain actors. e) High costs and inconsistent quality of poultry feed limits productivity and profitability. f) Inadequate veterinary and extension services. g) Insufficient investment in surveillance systems and laboratory services. h) Limited ability to map circulating strains to inform vaccine manufacturers and or importers.
EXTERNAL FACTORS	
OPPORTUNITIES +	**THREATS -**
a) Increasing demand for affordable animal protein creates strong market potential for poultry products. b) Expansion of value chains (opportunities exist in hatcheries, feed production, processing, cold storage, and distribution) c) Investment in vaccination, biosecurity, and farm management can reduce losses and antimicrobial dependence. d) Implementation of AMR and AMS strategies and livestock policies support safer and more sustainable poultry production. e) Organizations such as Food and Agriculture Organization of the United Nations (FAO) and World Organization for	a) Highly contagious poultry diseases can spread rapidly and cause significant economic losses. b) Rising AMR limits treatment options, increases mortality, and poses risks to public health and food systems. c) Easy access to antimicrobials without prescription contributes to misuse and poor-quality drug circulation. d) Variability in weather effects (climate change impacts), feed availability, water supply, and disease patterns. e) High antimicrobial residues in poultry products may reduce access to premium markets. f) Feed, vaccines, and chicks can be of poor quality, expensive or inconsistent in supply.

INTERNAL FACTORS	
Animal Health (WOAH) provide guidance and capacity - building support. f) Introduction of RENOFARM initiatives in Tanzania.	g) Increased incidences of vaccine failures due to unmatched strains in the field and that is vaccine strains, example Infectious Bursa Disease (Gumboro)

2.0. RATIONALE AND JUSTIFICATION

2.1. Reduce the Need for Antimicrobials in the poultry sector

Reducing the need for antimicrobials in Tanzania's poultry sector is essential to safeguard animal health, public health, and the sustainability of agrifood systems. Given the rapid growth of poultry production and its importance for nutrition, income, and employment, addressing antimicrobial use (AMU) is both a national priority and a global responsibility aligned with One Health principles.

Reducing the need for antimicrobials is therefore not optional but imperative. It requires a systemic shift from reactive disease management to preventive approaches, including improved biosecurity, vaccination, good husbandry practices, and strengthened surveillance systems. This aligns with Tanzania's National Action Plan (NAP) on AMR, particularly its food and agriculture components, which emphasize prudent antimicrobial use, infection prevention and control (IPC), and enhanced coordination across sectors under the One Health framework.

Tanzania must prioritize reducing the need for antimicrobials in agrifood systems for the following

key reasons:

a) Protecting Public Health

Poultry is a major source of animal protein in Tanzania, but it can also serve as a roadmap for resistant bacteria. Resistant bacteria can be transmitted to humans through meat, eggs, and the environment. The increasing prevalence of AMR compromises the effectiveness of life-saving medicines, leading to prolonged illnesses, higher treatment costs, and increased mortality in both humans and animals. Reducing AMU in poultry helps limit the spread of resistance along the food chain and protects the effectiveness of life-saving medicines

b) Safeguarding Agricultural Productivity

Overreliance on antimicrobials undermines long-term poultry productivity by masking poor management practices and contributing to resistant infections that are harder and more costly to treat. Reducing antimicrobial dependence through better husbandry, vaccination, and biosecurity improves flock health and long-term productivity.

c) Enhancing Economic Growth and Trade Competitiveness

The presence of antimicrobial residues and resistant pathogens in poultry products threatens access to regional and international markets, potentially leading to trade restrictions and economic losses. Reducing AMU positions Tanzania's poultry sector to access higher-value markets and remain competitive.

d) Supporting Livelihoods and Poverty Reduction

Smallholder farmers, who dominate the poultry sector, are disproportionately affected by disease outbreaks and rising treatment costs associated with AMR, thereby threatening household incomes and food security. These measures reduce reliance on antimicrobials while improving farm profitability and resilience.

e) Aligning with national and global AMR commitments

Tanzania has committed to tackling AMR through a One Health approach. Implementation of the National Action Plan (NAP) on AMR (2023–2028) prioritizes reduced antimicrobial use in the agriculture sector. Reducing antimicrobial dependence contributes directly to achieving SDGs related to health (SDG 3), zero hunger (SDG 2), economic growth (SDG 8), and responsible consumption and production (SDG 12). Reducing antimicrobial dependence on poultry directly contributes to achieving these policy commitments.

In summary, reducing the need for antimicrobials in Tanzania's poultry sector is justified by the need to protect animal productivity, public health, food safety, and economic opportunities. It aligns national and global AMR strategies and promotes more resilient, sustainable poultry production systems. A transition toward preventive health measures, improved farm management, and responsible antimicrobial stewardship is critical to securing the future of the sector.

f) Environmental protection

Tanzania emphasizes on reducing the need for antimicrobials in agrifood systems which is essential for environmental protection poultry farming can be a major source of antimicrobial residues, which persist in the environment, creating selective pressure for resistance, and disrupt essential ecological processes. By minimizing the use of antimicrobials in poultry, the amount of these compounds entering soil and water ecosystems via manure, wastewater, and runoff is reduced, thus lowering the risk of antimicrobial resistance (AMR) developing in the environment.

g) Reducing unnecessary poultry production costs

Antimicrobials have long been used in poultry production to reduce costs by improving production efficiency, preventing disease, and promoting faster growth. In intensive farming systems, they are utilized to manage health challenges in high-density environments, effectively acting as an inexpensive method to maintain productivity. However, this practice is associated with the rise of antimicrobial resistance (AMR), which creates long-term economic risks and increased mortality.

2.2 Purpose of the National roadmap

By addressing the root causes of antimicrobial dependence and aligning with national and global priorities, this initiative will play a critical role in safeguarding public health, ensuring sustainable agrifood production, and strengthening Tanzania's resilience against the growing threat of AMR.

Developing a national roadmap for reducing the need for antimicrobials (RENOFARM initiative) provides a structured and coordinated approach to operationalize these priorities. The roadmap will strengthen the implementation of NAP interventions within the food and agriculture sectors by translating policy commitments into actionable, sector-specific measures, particularly in the poultry value chain.

Importantly, the roadmap will enhance the functioning of existing multisectoral coordination mechanisms by strengthening the role of technical sub-groups for livestock, aquaculture, crops, and food safety. These sub- groups, operating under the national AMR coordinating platform, will benefit from clearer mandates, improved data sharing, and better alignment of interventions. This will foster more effective collaboration between ministries responsible for livestock, agriculture, health, environment, and trade, thereby improving planning, implementation, and accountability of AMR-related activities.

Furthermore, the roadmap will facilitate harmonization of efforts to combat AMR by integrating surveillance of antimicrobial use (AMU), antimicrobial residues, and resistance patterns within agrifood systems. It will also promote standardized reporting, evidence-based decision-making, and alignment with regional and global monitoring frameworks. This coordinated approach is essential for addressing fragmentation and ensuring that interventions are impactful and sustainable.

3.0. OVERALL GOAL

Tanzania's roadmap to "Reduce the Need for Antimicrobials in Agrifood Systems" is driven by the Second National Action Plan on Antimicrobial Resistance (NAP-AMR 2023–2028), adopting a One Health approach, and aligned with the FAO RENOFARM initiative (2024–2034). The RENOFARM aims to transform agrifood systems so that antimicrobials are no longer routinely needed for productivity.

> **The overall goal for Tanzania roadmap on RENOFARM: - Reduce the need for antimicrobials in poultry production in Tanzania**

The following are targets for the RENOFARM initiative:

- **Target 1: Reduce use of medically important antimicrobials by 30% by 2030, using 2026 as the baseline year.**
- **Target 2: Increase vaccine coverage by 75% by 2030, using 2026 as the baseline year**
- **Target 3: Strengthen and expand the antimicrobial stewardship programme in poultry production by 10% by 2030, using 2026 as the baseline year**
- **Target 4: Increase the number of poultry farmers adopting antimicrobial alternatives by 2030, using 2026 as the baseline year.**

- **Target 5: Increase/strengthen diagnostic stewardship for poultry diseases by 10% by 2030 using 2026 as the baseline year.**
- **Target 6: Improve the enabling policy environment to achieve a 25% increase in poultry farmer productivity by 2030.**
- **Target 7: Establish and strengthen economic incentives and financing mechanisms to achieve a 75% increase in investment in the poultry sector by 2030.**

4.0. OBJECTIVES

To achieve the above goals, Tanzania will focus on the following strategic objectives:

Strategic objectives	Expected outcomes
Strategic Objective 1: Enhance awareness, improve understanding, and promote responsible behavioral change on the appropriate use and need for antimicrobials in poultry production.	a. Reduced need for use of antimicrobials in poultry. b. Increased adherence to prescription requirements and mandatory withdrawal periods by farmers. c. Increased adoption of Good Poultry husbandry Practices (GPHPs) where farmers voluntarily consult certified veterinary service providers before administering drugs. d. Improved understanding among farmers regarding the drivers of antimicrobial resistance (AMR), particularly the dangers of using antibiotics as growth promoters.
Strategic Objective 2: Strengthen diagnostic capacity and enhance surveillance systems across poultry value chains.	a) Established and operationalize diagnostic facilities in each district in six regions b) Enhanced access to diagnostics tools for early disease detection and diagnosis, thereby reducing the need for use of antimicrobials. c) Implementation of risk-based targeted disease surveillance in poultry value chains d) Improved national surveillance systems that contribute to regional and global platforms e)
Strategic Objective 3: Promote good poultry husbandry practices and strengthen farm-level biosecurity to minimize the incidence of infections.	a. Reduced disease burden on poultry farms b. Increased adoption of good poultry husbandry practices and biosecurity measures c. Improved Production Performance
Strategic Objective 4: Optimize the use of antimicrobial agents and antimicrobial alternatives	a. Reduced use of medically important antimicrobials b. Increased vaccine coverage and efficiency in poultry production c. Increased use of antimicrobial alternatives
Strategic Objective 5: Promote an enabling policy environment and strengthen economic incentives for poultry farmers	**a.** Enforced regulations governing antimicrobials in the poultry value chain b. Enhanced sustainable economic incentives resulted from implementing biosecurity and the use of alternatives to antimicrobials. c. Increased access to loans; and extension services, training, and education on alternatives and good poultry husbandry practices d. Increased access to loans

To implement the above strategic objectives, fourteen priority actions have been identified

Table No.2: RENOFARM Priority Actions

Number of Priority Action (Not in order of importance)	Priority Action
Priority Action 1	Strengthen AMR and AMU awareness, advocacy, and behavior change for the poultry value chain actors
Priority Action 2	Promote the adoption of AMR and AMU topics into extracurricular activities in primary and secondary schools
Priority Action 3	Develop/review/update and operationalize regulatory frameworks for the poultry sector to strengthen compliance to support AMR/AMU monitoring
Priority Action 4	Strengthen regulatory enforcement and compliance mechanisms to support AMU monitoring across the poultry sector.
Priority Action 5	Strengthen responsible for antimicrobial use (AMU) among poultry value chain actors.
Priority Action 6	Enhance veterinary medicine quality assurance by strengthening pharmacovigilance and monitoring of substandard and falsified medicines
Priority Action 7	Enforce certification of veterinary facilities (Veterinary ambulatory services, quarantine centres, veterinary centers, laboratory) and veterinary services providers (veterinary inputs manufacturers and distributors)
Priority Action 8	Strengthening diagnostic capacity, AMR/AMU surveillance, and data sharing for poultry diseases
Priority Action 9	Strengthen poultry biosecurity and increase vaccination management and coverage
Priority Action 10	Promote innovative research and development on alternatives to antimicrobials, vaccines, diagnostic tools (including pen side tests), biosecurity, etc
Priority Action 11	Increase the number of poultry farmer field schools from six to sixty in the selected regions/districts/municipalities by 2030
Priority Action 12	Strengthening animal health workforce development through in-service training and continuous professional development
Priority Action 13	Establish and promote farmer incentive programs for improved Poultry value chain development
Priority Action 14	Develop a traceability system for poultry products produced without or with minimal antibiotics

The roadmap will be implemented over a five (5) year period, with interventions categorized into short, medium- and long-term phases. The roadmap directly supports Tanzania's NAP objectives

Interventions category	Implementati on Period	Interventions
Short term *Focus: Establishing systems, creating awareness and enabling environment*	1–2 Years: 2026–2027	Operationalize national and sub-national AMR coordination platforms.
		Establish a national baseline for antimicrobial use (status of AMU, use of alternative antimicrobials, and KAP studies)
		Increase awareness among stakeholders on responsible antimicrobial use and AMR risks.
		Strengthen national coordination mechanisms for AMR in the poultry sector.
		Build capacity of veterinarians, paraprofessionals, paraprofessional assistants, and poultry farmers on antimicrobial stewardship and good husbandry practices.
		Promote withdrawal periods and prescription compliance

Interventions category	Implementati on Period	Interventions
Medium-Term *Focus: Implementation, Regulation, and Biosecurity*	3–4 Years: 2027–2029	Implement, at scale, improved biosecurity and sanitation measures at the farm level to minimize the spread of infectious diseases.
		Enforce regulations on the access and use of veterinary medicines, particularly restricting the use of critically important antimicrobials for growth promotion, adhering to the 2023–2028 NAP- AMR.
		To veterinary laboratories in six regions and enhance the capability of Veterinary laboratories to diagnose infections accurately.
		Scale up vaccination programs, particularly for priority diseases such as Newcastle disease.
Long-Term *Focus: Sustainability, Investment, and Impact*	Within 5 Years: 2030	Align with the 2030 National Pathway, achieving a sustainable reduction in the need for antimicrobial inputs through sustainable growth and increased investment in vaccines and diagnostics.
		Achieve a measurable reduction in antimicrobial use in poultry, aligning with global RENOFARM targets for 2030 to ensure safer food and environment.
		Fully integrate the poultry sector into national AMR surveillance and reporting systems.

5.0. IMPLEMENTATION STRATEGY

The roadmap “Reduce the Need for Antimicrobials for Sustainable Agri-food Systems Transformation (RENOFARM)” in Tanzania is a five-year initiative for agri-food systems transformation through the provision of comprehensive support in the poultry value chain. The main goal of the roadmap is to “reduce the need for antimicrobial use and promote responsible and prudent use when antimicrobials are needed in the poultry farming”. The initiative aims at strengthening the implementation of National Action Plans (NAPs) on AMR in the poultry sector and increasing the capacity of the poultry farmers to promote and adopt best practices that reduce the need for antimicrobials throughout poultry value chains.



Figure 4: *Farmers training on good poultry husbandry, biosecurity, and disease prevention practices help reduce the need for antimicrobial use in poultry production.*

There are five objectives in the roadmap for Reducing the Need for Antimicrobials in Agri-food system particularly in the poultry sector which are; Enhance awareness, improve understanding, and promote responsible behavioral change on the appropriate use and need for antimicrobials in poultry production; Strengthen diagnostic capacity and enhance surveillance systems across poultry value chains, from farm level to national, regional, and global levels; Optimize high-standard poultry husbandry practices and strengthen farm-level biosecurity to minimize the incidence of infections; Optimize the use of antimicrobial agents and promote the adoption of effective antimicrobial alternatives; and Promote an enabling policy environment and strengthen economic incentives for poultry farmers.

The roadmap consists of a Monitoring and Evaluation (M&E) plan, which is an important tool to track progress, ensure accountability, and enable data-driven decision-making. Also, it provides early warning systems to detect risks, optimize resource allocation, measure impact, and ensure the roadmap meets its objectives efficiently. Furthermore, the roadmap consists of indicators, sources of data, it explains frequencies for reporting, responsible authority for reporting, and it indicates where the reports will be shared.

The roadmap implementation will involve different stakeholders in the poultry value chain including poultry farmers who will be organized in Farmers Field School (FFS) and networks, Government Authorities (Ministry of Livestock and Fisheries – MLF), Poultry Farmers Associations (PFA), Research and Academic Institutions, Development Partners, Financial Institutions, Poultry inputs manufacturers and Distributors, and other Poultry Value Chain Actors.

Sustainable funding aligned with a stated budget is the cornerstone of the roadmap for short, medium and long-term success and achievement of the core goals. Sustainable funding allocation allows for a continued provision of benefits to the poultry value chain actors even after primary donor support ends; and it reduces dependency on a single income source.

Table No. 3: Table providing template of how objective-related strategic interventions could be planned	
Objective	**Strategic intervention (Priority Actions)**
Objective 1: Enhance awareness, improve understanding, and promote responsible behavioral change on the appropriate use and need for antimicrobials in poultry production.	1.1 Strengthen AMR awareness, advocacy, and behavior-change for poultry value chain actors. 1.2 Promote adoption of AMR and AMU topics into extracurricular activities in pre and primary and secondary schools 1.3 Strengthen the animal health workforce development through in-service training and continuous professional development **Milestone**: Reduce use of medically important antimicrobials by 30% by 2030.
Objective 2: Strengthen diagnostic capacity and enhance surveillance systems across poultry value chains, from farm level to national, regional, and global levels.	2.1 Strengthen diagnostic capacity for poultry diseases, AMR/AMU surveillance and data sharing **Milestone:** Increase/strengthen diagnostic stewardship for poultry diseases by 10% by 2030
Objective 3: Optimize high-standard poultry husbandry practices and strengthen farm-level biosecurity to minimize the incidence of infections.	3.1 Strengthen poultry biosecurity and increase vaccination management and coverage. 3.2 Increase/expand the number of poultry Farmer Field Schools (FFS) to 24 (two per district) by 2028 3.3 Promote innovative research and development on vaccines, diagnostic tools (including pen side tests) and biosecurity **Milestone**: Increase vaccine coverage by 75% by 2030
Objective 4: Optimize the use of antimicrobial agents and promote the adoption of effective antimicrobial alternatives.	4.1 Strengthen responsible antimicrobial use (AMU) among poultry value chain actors. 4.2 Enhance veterinary medicine quality assurance by strengthening pharmacovigilance and monitoring of substandard and falsified medicines 4.3 Enforcing certification and accreditation of veterinary facilities (Veterinary Ambulatory services, Quarantine centers, Veterinary centers, clinics, laboratory, Hospital) and veterinary services providers (veterinary inputs manufacturers and distributors 4.4 Strengthen research capacity in AMR/AMU/AMS **Milestone**: ● Increase the number of poultry farmers adopting antimicrobial alternatives increased by 20% by 2030 ● Strengthen and expand the antimicrobial stewardship programme in poultry production by 10% by 2030
Objective 5: Promote an enabling policy environment and strengthen economic incentives for poultry farmers	5.1 Develop/review/update and operationalize regulatory frameworks for the poultry sector to strengthen compliance and enforcement to support AMR/AMU/AMS monitoring. 5.2 Strengthen regulatory enforcement and compliance mechanisms to support AMU monitoring across the poultry sector. 5.3 Establish and promote farmer incentive programs for improved Poultry value chain development 5.4 Develop a traceability system for poultry products produced without or minimal antibiotics **Milestone:** ● Improve the enabling policy environment to achieve a 40% increase in poultry farmer productivity by 2030. ● Strengthen economic incentives and financing mechanisms to achieve a 25% increase in investment in the poultry sector by 2030.

6.0. ACTION PLAN

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
Objective 1: Enhance awareness, improve understanding, and promote responsible behavioral change on the appropriate use and need for antimicrobials in poultry production.	1.1 Strengthen AMR/AMU awareness, advocacy, and behavior-change for poultry value chain actors.	1. Conduct annual AMR/AMU sensitization campaign using DVOs, extension officers and farmers groups to reach at least 5,000 poultry farmers in 6 regions	MLF	Jul-2027-Jun-2029	**Outcome 1:** Reduced need for use of antimicrobials in poultry.	AMR sensitization sessions conducted	More than 5,000 poultry farmers in 6 targeted regions reached with AMR sensitization sessions by 2030
		2. Conduct annual advocacy sessions to provide continuous awareness-raising on quality chicken production for poultry value chain actors (Hatcheries, Feed millers, poultry farmers) by 30% in 6 targeted regions	MLF	May 2027 – July 2030			30% of poultry value chain actors (hatcheries, feed millers, farmers) in six participating regions participating on quality chicken production in advocacy session by 2030
		3. Conduct annual awareness and sensitization workshops AMR/AMU to religious leaders' groups by 20% in 6 targeted regions	MLF	Jul 2027 – Jun 2029			20% of religious leaders in 6 targeted regions reached with AMR advocacy sessions by 2030
		4. Conduct two Knowledge, Attitude and Practice (KAP) assessments on behavior change related to responsible antimicrobial use among poultry farmers in 6 regions	MLF	Aug 2026 – July 2030		*Two KAP assessments completed in each participating region*	*6 targeted regions conducted two Knowledge, Attitude and Practice (KAP) assessments on behavior change related to responsible antimicrobial use among poultry farmers by 2030*
		5. Conduct farmers training on biosecurity, adherence to vaccination schedules, good housing, treatment with guided diagnosis by 60% of targeted farmers in 6 regions	MLF	Jul 2027 – Jan 2029		*Training conducted on biosecurity, vaccination schedules, good housing, and guided diagnosis for treatment*	*60% of targeted farmers in 6 regions trained on biosecurity, vaccination, housing, and guided treatment by 2030*
		6. Develop, categorize, validate and disseminate PUSH messages on biosecurity, adherence to vaccination schedules, good housing, treatment with guided diagnosis by 60% of targeted population in 6 regions	MLF	Jan 2027 – March 2027		*PUSH messages on biosecurity, vaccination, housing, and guided treatment developed, validated, and disseminated*	*60% of targeted population in 6 regions receiving PUSH messages on biosecurity, adherence to vaccination schedules, good housing and treatment by 2030*
		7. Review Multisectoral Antimicrobial Resistance Communication Strategy to incorporate RENOFARM communication toolkit	AMR-MCC Secretariat	May 2027 – Jun 2030		Strategy updated to incorporate RENOFARM communication toolkit	RENOFARM toolkit components integrated into the reviewed Multisectoral Antimicrobial Resistance Communication Strategy by 2030
		8. Document best practices and lessons learned from the Farmer Field Schools (FFS) implementation, including biosecurity, effective antimicrobial stewardship practices and farmer-led innovations.	MLF	Jun 2027 – Jun 2030		Compilation of best practices, farmer-led innovations, biosecurity, and antimicrobial stewardship approaches	Farmer Field Schools (FFS) best practices documented and shared by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
	1.2 Promote adoption of AMR and AMU topics into extra curricula activities in pre and primary and secondary schools	1. Conduct two-day high-level advocacy meeting to discuss the adoption of AMR and AMU topics into extra curricula activities in primary and secondary schools.	MLF	Sept 2026 – Sept 2026		AMR/AMU-related extracurricular activities implemented	10% of schools in targeted 6 regions implementing AMR/AMU-related extracurricular activities by 2030
		2. Develop training materials on AMR &AMU for primary and secondary schools	MLF	Nov 2026 - Dec 2027		Training materials developed	AMR/AMU training materials developed and approved for use in primary and secondary schools by 2027.
		3. Print, distribute/ and disseminate AMR/AMU education materials for primary and secondary schools	MLF	Jan 2027 – Mar 2027		AMR/AMU education materials for primary and secondary schools printed and disseminated	
		4. Conduct a 3-day orientation workshop for teachers on AMR &AMU, covering 10% of schools in targeted regions	MLF	Mar 2027 – Apr 2027		3-day orientation workshop for teachers on AMR &AMU conducted	3-day orientation workshop for teachers on AMR &AMU conducted by 2027
		5. Conduct bi-annual mentorship and support supervision of trained schools in targeted regions to strengthen AMR and AMU initiatives	MLF	Jul 2027 – July 2030		bi-annual mentorship and support supervision to trained schools conducted	bi-annual mentorship and support supervision to trained schools conducted by 2030
		6. Conduct an annual review meeting with teachers from trained schools in targeted regions (AMR/AMU Program)	MLF	Jan 2028 – Jan 2030		annual review meeting with teachers from trained schools conducted	annual review meeting with teachers from trained schools conducted by 2030
	1.3 Strengthen the animal health workforce development through in-service training and continuous professional development	1. Conduct 6 annual training in selected highly poultry producing regions to 600 in- services animal health professionals on antimicrobial stewardship	MLF	Mar 2026 – Dec 2030	**Outcome 3:** Increased adherence to prescription requirements and mandatory withdrawal periods by farmers	Training of 600 in- services animal health professionals on antimicrobial stewardship from selected regions	600 trained in- services animal health professional on antimicrobial stewardship by 2030
		2. Conduct annual supportive mentorship and supervision to 2 cohorts of 30 participants through ISAVET for five years	MLF	Mar 2026 – Dec 2030		Supportive mentorship and supervision conducted	2 cohorts of 30 participants received supportive mentorship and supervision by 2030
		3. Conduct annual refresher training to 80% of veterinarians and para-veterinarian working in the veterinary centers, veterinary hospitals, and veterinary clinics on the prudent AMU, rules, laws and regulations governing AMU in seven regions of Tanzania	MLF	Jan 2026- Dec 2030		Refresher trainings to 80% of veterinarians and para-veterinarian working in the veterinary centers, veterinary hospitals, and veterinary clinics on the prudent AMU, rules, laws and regulations governing AMU in seven regions of Tanzania	Percentage of trained veterinarian and para- veterinarian by the year 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		4. Develop and conduct AMR/AMU and biosecurity training programmes for poultry farm attendants in six highly poultry producing regions	MLF	Mar 2026 - Dec 2030		Training of AMR/AMU and biosecurity programmes to poultry farm attendants in six highly poultry producing region:	Number of trained poultry farm attendants in six highly poultry producing regions by the year 2030
		5. Establish an e-learning platform for animal health professionals by end of 2026, with at least 5 accredited courses uploaded and 500 users registered within the first 12 months (suggested to merge into other present digital systems)	MLF	Mar 2026 - Dec 2030		E-learning platforms for animal health professionals by the end of 2026, with at least 5 accredited courses uploaded and 500 users registered within the first 12 months.	Established E-learning platform for animal health professionals and number of registered users by the year 2030
Objective 2: Strengthen diagnostic capacity and enhance surveillance systems across poultry value chains, from farm level to national, regional, and global levels.	2.1 Strengthen diagnostic capacity for poultry diseases, AMR/AMU surveillance and data sharing	1. Establish and operate at least one (1) government laboratory and promote establishment of at least one (1) private/FBO laboratory at District level in six (6) selected regions.	MLF	2026 -2030	**Outcome 4:** Enhanced access to diagnostics tools for early disease detection and diagnosis, thereby reducing the need for use of antimicrobials .	Number of government and private laboratories established at regional level	Six (6) diagnostics laboratories established at district level in six (6) regions by 2030
		2. Collect, generate, and analyze AMR data from registered hatcheries on a quarterly basis, covering 75% of hatcheries in the six (6) selected regions	MLF	2026 -2030		AMR Data from registered hatcheries collected, generated, and analyzed on a quarterly basis from 75% hatcheries	Percentage of AMR data
		3. Establish AMR Technical `working Group (TWG)	MLF	2026 -2030		Number of TWG established	One (1) TWG established for the six regions by 2030 20 TWG meetings conducted in six regions by 2030
		4. Promote quarterly testing and certification of parent stock and day-old chick farms for Salmonella spp., Marek's disease, and IBD, ensuring that 100% of farms in the six (6) selected regions	MLF	2026 -2030			
Objective 3: Optimize high-standard poultry husbandry practices and strengthen farm-level biosecurity to minimize the incidence of infections.	3.1 Strengthen poultry biosecurity and increase vaccination management and coverage.	1. Train farmers on best biosecurity practices, 30 farmers per quarter for the 6 suggested regions for 4 years	MLF	2026-2030	**Outcome 5:** Reduced disease burden on poultry farms	Farmers trained in best biosecurity practices	Thirty farmers trained best biosecurity practices from each 6 targeted regions by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		2. Implement the national poultry strategy through the slogan "Poultry Farmers Voice (SAUTI YA MFUGAJI WA KUKU TANZANIA)" in six selected regions	MLF	2026-2030		Implemented national poultry strategy through the slogan "Poultry Farmers Voice (SAUTI YA MFUGAJI WA KUKU TANZANIA)" in six selected regions	Percentage of poultry farmers implementing "Poultry Farmers Voice (SAUTI YA MFUGAJI WA KUKU TANZANIA)" in six selected regions by 2030
		3. Identify, train and certify selected farmers on how to make detergents and disinfectants at farm level	MLF	2026-2030		farmers are identified and trained on how to make detergents and disinfectants at farm level	Number of farmers are identified and trained on how to make detergents and disinfectants at farm level by 2030
		4. Build farmers capacity on innovative management of poultry waste	MLF	2026-2030		Built farmers' capacity on innovative management of poultry waste	30 farmers trained in innovative management of poultry waste from each 6 targeted regions by 2030
	3.2 Increase the number of poultry Farmer Field Schools (FFS)	1. Establish at least one poultry FFS in 6 regions per year	DVS	2026-2030	**Outcome 6:** Increased adoption of good poultry husbandry practices and biosecurity measures	Established number of poultry FFS	Establish at least 1 one poultry FFS in 6 targeted regions per year by 2030
		2. Identify and select 5 farmers from each region to form FFS network across 6 regions (Morogoro, Dar es salaam, Mbeya, Mwanza, Arusha and Dodoma)	FFS FACILITATORS	2026-2030		FFS network formed	FFS network formed by 2030
		3. Conduct weekly training for 30 farmers in 6 regions	DVS	2026-2030		Conducted weekly training to Farmers	Number of weekly FFS training conducted in 6 regions by 2030
		4. Conduct farmer field exchange program between FFS Farmers across the 6 regions	FFS FACILITATORS	2026-2030		Organized farmers Field exchange program between FFS farmers	Number of farmers field exchange program conducted in 6 regions by 2030
		5. Conduct Farmers field day to expose consumers and non- FFS farmers to promote marketing and awareness creation	FFS FACILITATORS	2026-2030		Farmer field day organized and conducted	Number Farmers field days organized and conducted
		6. Participate in national exhibition e.g. Nanenane, Sabasaba and national poultry day to promote marketing and create awareness	PAT	2026-2030		Participated National Exhibition	Participate in National exhibition (Nanenane) for each FFS for 6 regions by 2030
	3.3 Promote innovative research and development on vaccines, diagnostic tools (including pen	1. Map available alternatives to antimicrobials and investigate the efficacy and effectiveness in treatment of poultry diseases	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030	**Outcome 7:** Improved Production Performance	Number of alternatives identified	At least 10% of the available alternative to antimicrobials identified by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
	side tests) and biosecurity	2. Evaluate FFS programs performance in reducing the need for antimicrobial in selected 6 regions at baseline and end-line (End points)	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		FFS program performance evaluated	FFS program performance evaluated by 2030
		3. Evaluate diagnostic capacity in public and private veterinary facilities at different tiers supporting poultry production system in 6 regions in Tanzania	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Number and capacity of veterinary diagnostic facilities	Capacitate At least 50% of veterinary diagnostic facilities in selected regions by 2030
		4. Assess the adherence and implementation of biosecurity measures among poultry farmers in selected 6 regions in Tanzania.	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Number of farmers implementing biosecurity measures	Overall biosecurity index Increased by 12% from 58% to 65% of farmers by 2030
		5. Assess the effectiveness of vaccination and adoption of bacterial vaccines in selected poultry farms from selected 6 regions	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Number of farmers adopted bacterial vaccines	50% of farmers adopted bacterial vaccine by 2030
						Number of effective and efficacious vaccines	50% of effective and efficacious vaccines identified by 2030
		6. Evaluate the implementation and adherence to Standard Treatment Guideline (STG) and National Veterinary Essential Medicine List (NVEML) for poultry diseases at farm level at 6 regions	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Number of veterinary practitioners adhering to Standard Treatment Guideline (STG), Veterinary formula and National Essential Veterinary Medicine List (NEVML)	Increase at least 70% of veterinary practitioners implementing good practices to Standard Treatment Guideline (STG), Veterinary formula and National Essential Veterinary Medicine List (NEVML), by 2030
		7. Assess the magnitude and extent of use of counterfeit and substandard antimicrobials in poultry production system in selected 6 regions in Tanzania	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Number of counterfeit and substandard antimicrobials ruled out	Reduce at least 70% of counterfeit and substandard antimicrobials by 2030
		8. Conduct situational analysis of AMU practices in poultry farms across the selected 6 regions to identify gaps in knowledge, attitudes, and practices.	TALIRI, SUA, M&E TWG NAP- AMR	2026-2030		Comprehensive situational analysis report on antimicrobial use (AMU) practices in poultry farms across 6 selected regions	Conduct and complete situational analysis of AMU practices in poultry farms in 6 selected regions, covering at least 80% of targeted farms by 2027.
Objective 4: Optimize the use of antimicrobial agents and promote the adoption of effective non- antimicrobial alternatives.	4.1 Strengthen responsible antimicrobial use (AMU) among poultry value chain actors.	1. Conduct situational analysis on the use of medically important antimicrobials in poultry production in 6 targeted regions to identify patterns, gaps, and priority areas for intervention.	MLF	2026	**Outcome 8:** Reduced use of medically important antimicrobials	Situational analysis report for 6 targeted regions.	6 targeted regions conducted a situational analysis identifying patterns, gaps, and priority intervention areas for the use of medically important antimicrobials in poultry production by 2027
		2. Design targeted interventions and capacity-building programs for farmers, veterinarians, and agro-dealers in the six regions to promote responsible antimicrobial use.	MLF	2027		Antimicrobial stewardship training sessions conducted	60 stakeholders (farmers, veterinarians, agro-dealers) from each participating region trained on antimicrobial stewardship for poultry farmers production, using standardized training materials, by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		3. Design, develop, and pilot a standardized Antimicrobial Use (AMU) data collection system for poultry farms, including data collection tools and reporting protocols.	MLF	2027-2030		Standardized AMU data collection tools and reporting protocols designed and tested	Standardized AMU data collection tools, protocols, and guidelines developed, validated, and officially approved for use in poultry farms by 2028
						Output 3.4: AMU data reports submitted consistently	50% of poultry farms in the targeted regions/districts consistently submit AMU data reports through the standardized system annually by 2030
		4. Conduct post market surveillance in poultry feeds in 6 targeted regions	MLF	2027-2030		Post-market surveillance reports generated for poultry	6 targeted regions collected poultry feed samples and submitted them to the national reference laboratory for analysis of antimicrobial residues by 2030
		5. Conduct baseline study on the use of antimicrobial alternatives in poultry	MLF	2027		National guidelines on the use of antimicrobial alternative products developed, validated, and approved	National guidelines on the use of antimicrobial alternative products in poultry developed, validated, and officially approved by December 2028
		6. Formalize the use of antimicrobial alternatives product in poultry	MLF	2028-2029		Antimicrobial alternative products officially approved,	Antimicrobial alternative products officially approved, listed, and registered for use in poultry production by the national regulatory authority by December 2030
						Use of antimicrobial alternatives in poultry piloted	10% of poultry farms in the targeted regions adopting and applying the approved guidelines on antimicrobial alternative products in poultry production by 2030
						Veterinary and livestock officers trained on antimicrobial alternatives	4 veterinary and livestock officers from each participating district trained on antimicrobial alternatives by 2030
	4.2 Enhance veterinary medicine quality assurance by strengthening Pharmacovigilance and monitoring substandard and falsified medicines	1. Promote appropriate diagnosis, rational treatment, and responsible handling of antimicrobials by veterinary practitioners in six (6) selected regions by 50%.	DVS	2026-2030	Outcome 9: Enforced regulations governing antimicrobials in the poultry value chain	Number of workshops conducted for veterinary facilities to create awareness and sensitization activities to ensure timely withdrawal and safe disposal of expired antimicrobials	20 Workshops conducted in six regions by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		2. Conduct quarterly awareness and sensitization activities to ensure timely withdrawal and safe disposal of expired antimicrobials from veterinary facility shelves in six (6) selected regions	DVS	2026-2030		Number of training cohorts of field practitioners conducted on diagnostic technique, disease treatment and responsible handling of antimicrobials (DTDTRHA)	six (6) training cohorts of 48 field participants conducted in six regions by 2030
		3. Disseminate and promote the use of the National Standard Treatment Guideline for Animal Diseases (NSTGAD) and the National Essential Veterinary Drug List (NEVDL) by 75% of veterinary facilities in six (6) selected regions	DVS	2026-2030		Number of TOT trained on DTDTRHA	Eight (8) TOT conducted in six regions by 2030
		4. Develop National Poultry Veterinary formulary, validate and disseminate in six (6) selected regions	DVS	2026-2030		Number of disseminated and promoted the use of the NSTGAD, NEVML and NPVF meetings conducted	Ten (10) meetings conducted in six regions by 2030
		5. Review of Standardized Farm Diseases Management Record/ logbook, validate and disseminate in six (6) selected regions	DVS	2026-2030			
		6. Implement and promote quarterly AMU data collection through the bucket system and standardized record-keeping at farm level in six (6) selected regions	DVS	2026-2030		Output 1.5 Number of TWG established	One (1) TWG established for the six regions by 2030 20 TWG meetings conducted in six regions by 2030
	4.3 Enforcing certification and accreditation of veterinary facilities (Veterinary centers, clinics, laboratory, Hospital) and veterinary services providers (veterinary inputs manufacturers and distributors	1. Develop and validate a cloud-based veterinary software (C-BVS) (digital tool) with real- time data sharing functionality for antimicrobial use and consumption (AMU/C) data collection in veterinary facilities in six (6) selected regions of Tanzania, achieving at least 75% dissemination	DVS	2026-2030		Developed Cloud - Based Veterinary Software (C-BVS)	One Cloud - Based Veterinary Software (C-BVS) Developed and disseminated meetings in six regions by 2030
		2. Conduct quarterly monitoring and analysis of AMU/C data from veterinary facilities in six (6) selected regions.	DVS	2026-2030		Number of training courses conducted on AMR/U data collection through the bucket system	20 AMU data training meetings conducted in 6 regions by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		3. Implement and promote quarterly AMU data collection through the bucket system and standardized record-keeping at farm level in six (6) selected regions	DVS	2026-2030	**Outcome 10:** Improved national surveillance systems that contribute to regional and global platforms	Number of campaigns conducted	20 awareness campaign conducted to poultry farmers in six regions by 2030
Objective 5: Promote an enabling policy environment and strengthen economic incentives for poultry farmers	5.1 Develop/review/upd ate and operationalize regulatory frameworks for the poultry sector to strengthen compliance and enforcement to support AMR/AMU monitoring.	1. Develop and adopt a National Poultry Strategic Plan aligned with AMR mitigation priorities, integrating responsible antimicrobial use and disease prevention measures	MLF	2026-2027	**Outcome 9:** Enforced regulations governing antimicrobials in the poultry value chain	National Poultry strategy developed	National Poultry strategy developed by 2027
		2. Conduct 6 meetings of poultry sector stakeholders in selected regions with high poultry production for dissemination of national poultry strategic plan	MLF	2027-2028		6 meetings of poultry sector stakeholders conducted for dissemination of national poultry strategic plan	6 meetings of poultry sector stakeholders conducted for dissemination of national poultry strategic plan by 2028
		3. Review and harmonize existing laws, regulations, and guidelines governing veterinary medicines and poultry production to clearly define requirements for antimicrobial access, prescription, and responsible use in poultry systems	MLF	Mar2026 - Dec 2030		Reviewed and harmonized existing laws, regulations, and guidelines governing veterinary medicines and poultry production to clearly define requirements for antimicrobial access, prescription, and responsible use in poultry systems	Number of Reviewed and harmonized existing laws, regulations, and guidelines by year 2030
		4. Conduct at least 6 meetings of poultry sector stakeholders in selected regions with high poultry production for dissemination of reviewed policies related to poultry sectors	MLF	Mar 2026-Dec 2030		6 meetings of poultry sector stakeholders for dissemination of reviewed policies related to poultry sectors	6 meetings of poultry sector stakeholders for dissemination of reviewed policies related to poultry sectors by 2030
		5. Strengthen regulatory oversight of veterinary drug distribution and sales, including mapping of veterinary drug supply chains and promoting compliance with prescription requirements.	MLF	Mar 2026-Dec 2030		Strengthened regulatory oversights of veterinary medicines distribution and sales at veterinary facilities	At least 30 Percentage of veterinary facilities providing antimicrobials with valid prescription by 2030

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
		6. Develop national biosecurity guidelines and standard operating procedures (SOPs) for prudent antimicrobial use in the poultry, tailored to small- and medium-scale producers who dominate the sector (broilers, layers, indigenous and crossbred chickens)	MLF	Mar 2026-Dec 2027		Developed national biosecurity guidelines and standard operating procedures (SOPs) in the poultry value chain	National biosecurity guidelines and standard operating procedures (SOPs in the poultry value chain developed by 2027
		7. Conduct 6 meetings of poultry sector stakeholders in selected regions with high poultry production for dissemination of biosecurity guideline for poultry sector (broilers, layers, indigenous and crossbred chickens)	MLF	Dec 2027-Dec 2028		6 meetings of poultry sector stakeholders for dissemination of biosecurity guideline for poultry sector conducted	6 meetings of poultry sector stakeholders for dissemination of biosecurity guideline for poultry sector conducted by 2028
	5.2 Strengthen regulatory enforcement and compliance mechanisms to support AMU monitoring across the poultry sector.	1. Identification, registration and traceability of at least 90% of all established hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks, ensuring their compliance with the Animal Diseases Act (Hatcheries and Breeding Flock Farms) Regulations, 2019 and adherence to standards for producing and supplying high-quality day-old chicks	MLF	Mar 2026-Dec 2030		Identified, registered and traceability of at least 90% of all established hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks	Identified, registered and traceability of at least 90% of all established hatcheries, breeder flock farms, agents, dealers, and brokers of day- old chicks by 2030
		2. Conduct annual inspections of all registered hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks to ensure compliance with animal health, biosecurity, and antimicrobial use (AMU) regulations.	MLF	Mar 2026-Dec 2030		Annually inspected hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks ensuring compliance with animal health, biosecurity, and antimicrobial use (AMU) regulations.	Percentage of inspected hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks by the year 2030
		3. Develop and implement a digital reporting guideline and system for antimicrobial sales at veterinary outlets and antimicrobial use at farm level.	MLF	Mar 2026-Dec 2027		Developed digital reporting guideline and system for antimicrobial sales at veterinary outlets and antimicrobial use at farm level	Digital reporting guideline and system established by the year 2028
		4. Conduct 6 meetings in selected 6 highly poultry producing regions for dissemination of reviewed standard treatment guideline and essential veterinary medicines list for Tanzania	MLF	Dec 2027-dec 2028		Dissemination meetings of the standard treatment guidelines and essential veterinary medicines list	Number of dissemination meetings conducted in six regions by the year 2028
		5. Develop digital mobile application system for farm routine activities monitoring and record keeping including stewardship and AMU	MLF	Mar 2026-Dec 2028		Digital mobile application system for farm routine activities monitoring and record keeping developed	Digital mobile application system for farm routine activities monitoring and record keeping developed by 2028

Objective	Strategic Intervention (Priority Action)	Planned activities	Responsibile authority	Timeline	Expected Outcome	Expected Output	Indicator/target
	5.3 Establish and promote farmer incentive programs for improved Poultry value chain development	1. Promote systems for recognizing chickens under good farming/agricultural practices (GAP) to increase poultry market value.	MLF	Mar 2026-Dec 2030	**Outcome 11:** Enhanced sustainable economic incentives resulted from implementing biosecurity and the use of alternatives to antimicrobials .	Operationalized system for recognition of poultry produced under Good Agricultural Practices (GAP)	Implement a GAP-based poultry recognition system in 6 regions, with at least 40% of commercial poultry producers certified by 2028.
		2. Promote market (Internal and export) for poultry products produced under GAP	MLF	Mar 2026-Dec 2030		Expanded and strengthened domestic and export market systems for poultry products produced under GAP.	Increase access to domestic and export markets for GAP- certified poultry products, with at least 30% of certified producers linked to formal markets.
	5.4 Develop a traceability system for poultry products produced without or minimal antibiotics	1. Conduct stakeholder mapping and Needs assessment for poultry farmers in the 6 selected region	MLF	Mar 2026-Dec 2030		Stakeholder mapping and needs assessment report for the poultry sector.	Complete stakeholder mapping and needs assessment for the poultry sector across 6 regions by 2027.
		2. Develop and Identify the Data capturing systems and tracking mechanisms for farmers and poultry products in 6 regions (establishing registry)	MLF	Mar 2026-Dec 2030		Functional data capture and tracking system (registry) for poultry farmers and poultry products established in 6 regions.	Establish a registry system for poultry farmers and products in 6 regions, covering at least 70% of farmers and enabling routine data tracking by 2028.

7.0. BUDGET PLAN

In this section, we provide an estimation of costs for implementing strategic interventions and listed in the action plan indicating the main source of funding (national budget/external budget) for at least 3-5 years.

Upon prior agreement with all program partners involved, 'Tanzania' will spend an estimated [6.2] million USD in the next 3-5 years for RENOFARM implementation at a national level (see section 7). Investing [6.2] million USD will significantly reduce the disease risk, reduce the reliance on antimicrobial use in agri-food systems, contributing to healthier and more sustainable agri-food production. According to the defined objectives and the planned strategic interventions the budget for the next 5 years is detailed as follows:

Example of a budget plan (in shillings) broken down by program partners and objectives

Stakeholder	*Objective*	*Category*	*Budget for Year 1*	*Budget for Year 2*	*Budget for Year 3*	*Budget for Year 4*	*Budget for Year 5*
MLF, Poultry Farmers, Veterinary Professionals, Agro-Veterinary Retailers and Feed Suppliers, Media and Communication , development partners, Research and Academic Institutions, Regulatory authorities,	*Objective 1; Enhance awareness, improve understanding, and promote responsible behavioral change on the appropriate use and need for antimicrobials in poultry production.*	**Resources**; *(Printed IEC materials (brochures, posters, flyers, manuals, Audio-visual materials)*	*349,499,343*	*363,164,043*	*326,864,443*	*283,156,543*	*209,571,343*
		Infrastructure; *(digital tools, ICT equipment (computers, tablets, servers))*	*227,183,908*	*220,229,308*	*193,991,508*	*179,723,508*	*133,630,208*
		Workforce; *(Facilitators, Participants, Trainers, Farmers*	*858,093,948*	*792,510,848*	*723,117,248*	*667,182,148*	*55,0671, 148*
	Objective 2. Strengthen diagnostic capacity and enhance surveillance systems across poultry value chains.	**Resources**: *include laboratory consumables (culture media, reagents, AST discs or kits, and sample containers), cool boxes, and ice packs. Field logistics such as fuel, vehicle hire, PPE, per diem, standardized data collection tools, and printed guidelines and reporting materials.*	*459,782,235*	*459,782,235*	*459,782,235*	*459,782,235*	*459,782,235*
		Infrastructure: *functional laboratory buildings, incubators, autoclaves, biosafety cabinets, microscopes, refrigeration systems, and laboratory information systems (LIS), computers or tablets, and AMR/AMU digital platforms such as WHONET /InFARM and dashboards, reliable electricity and internet connectivity with backup power systems.*	*413,261,360*	*413,261,360*	*413261,360*	*413,261,360*	*413,261,360*
		Workforce; *(Facilitators, Participants Laboratory technicians, Data managers for AMR/AMU*	*318,172,605*	*318,172,605*	*318,172,605*	*318,172,605*	*318,172,605*
	Objective 3. Promote good poultry husbandry practices and strengthen farm- level biosecurity to minimize the incidence of infections.	**Resources**: *Training materials, biosecurity guidelines, disinfectants, PPE, sanitation supplies, and field logistics for farmer sensitization and outreach.*	*268,337,000*	*245,128,700*	*233,067,200*	*233,067,200*	*223,880,000*
		Infrastructure: *Farm-level biosecurity structures (fencing, footbaths, and handwashing stations), improved poultry housing, demonstration farms, and basic farm record systems.*	*222,689,850*	*208,268,100*	*198,320,600*	*198,320,600*	*198, 752,650*

		Workforce: *Veterinary and extension officers, livestock field officers, trainers, and trainee (farmers), and M&E staff to support training, supervision, and compliance monitoring*	*289,200,150*	*259,801,200*	*242,220,200*	*242,220,200*	*299,272,350*
MLF, Poultry Farmers, Veterinary Professionals, Agro-Veterinary Retailers and Feed Suppliers, Media and Communication , development partners, Research and Academic Institutions, Regulatory authorities,	*Objective 4. Optimize the use of antimicrobial agents and antimicrobial alternatives*	**Resources** *(updated stewardship guidelines, training materials, diagnostics, and communication tools*	*29,989,500*	*29,989,500*	*29,989,500*	*29,989,500*	*29,989,500*
		Infrastructure (improved laboratory and diagnostic systems, AMU/AMR digital reporting platforms, and veterinary drug information systems))	*21,948,500*	*21,948,500*	*21,948,500*	*21,948,500*	*21,948,500*
		Workforce: *(trained veterinarians, laboratory staff, AMU/AMR surveillance officers, data analysts, and extension workers*	*26,402,000*	*26,402,000*	*26,402,000*	*26,402,000*	*26,402,000*
	Objective 5. Promote an enabling policy environment and economic incentives to poultry farmers	**Resources**; *(policy guidelines, regulatory frameworks, incentive schemes, awareness and advocacy materials)*	*20,004,400*	*20,004,400*	*20,004,400*	*20,004,400*	*20,004,400*
		Infrastructure *(functional systems for policy enforcement, farmer registration and monitoring platforms, and mechanisms for delivering subsidies or incentives)*	*12,419,600*	*12,419,600*	*12,419,600*	*12,419,600*	*12,419,600*
		Workforce: *policymakers, veterinary and regulatory officers, extension staff, and stakeholders to implement, enforce, and support incentive-based and compliance systems for poultry production*	*21,616,000*	*21,616,000*	*21,616,000*	*2,161,6000*	*2,1616,000*
G. Totals			**3,538,600,399**	*3,412,698,399*	*3,241,177,399*	*3,127,266,399*	*2,939,373,899*
Grand TOTAL			**16,259,116,495**				

8.0. MONITORING AND EVALUATION PLAN

To enable effective M&E, an M&E framework is needed. This is best developed after the strategy template is concluded. In order to determine whether the country's strategy is working as desired, it is necessary to have a monitoring and evaluation plan to guide on what to measure (indicators), the data sources, responsible people, and reporting frequencies among others. Resources also need to be set aside to support M&E activities. Through reflections and discussions, the M&E framework template below should be completed. A guidance document is available on how to develop an M&E plan for AMR work[23].

INDICATORS	Data Sources	Reporting Frequency	Responsible	To Where Reported
Reduce use of medically important antimicrobials by 30% by 2030, using 2026 as the baseline year.				
20 Workshops conducted in six regions by 2030	*Quarterly workshop reports*	*Quarterly*	*LGAs and RS*	*MLF*
six (6) training cohorts of 48 field participants conducted in six regions by 2030	*Training reports*	*Quarterly*	*LGAs and RS*	*MLF*
Eight (8) TOT conducted in six regions by 2030	*Training reports*	*Quarterly*	*LGAs and RS*	*MLF*
Ten (10) meetings conducted in six regions by 2030	*Meetings reports*	*Biannually*	*LGAs and RS*	*MLF*
One (1) TWG established for the six regions by 2030 20 TWG meetings conducted in six regions by 2030	*Meeting reports*	*Quarterly*	*LGAs and RS*	*MLF*
National Poultry strategy developed by 2027	*MLF official websites*	*annually*	*MLF*	*MLF, PMO, Development partners, Stakeholders*
Number of Reviewed and harmonized existing laws, regulations, and guidelines by year 2030	*MLF official websites*	*annually*	*MLF*	*MLF, PMO, Development partners, Stakeholders*
At least 30 Percentage of veterinary facilities providing antimicrobials with **valid** *prescription by 2030*	*Veterinary council of Tanzania inspection reports*	*Annually*	*Veterinary council of Tanzania*	*MLF*
National biosecurity guidelines and standard operating procedures (SOPs in the poultry value chain developed by 2027	*MLF official websites*	*annually*	*MLF*	*MLF, Development partners, Stakeholders*
Percentage of inspected hatcheries, breeder flock farms, agents, dealers, and brokers of day-old chicks by the year 2030	*MLF Zone Veterinary Centers (ZVCs)*	*Annually*	*Zone Veterinary Centers (ZVCs)*	*MLF*
Digital reporting guideline and system established by the year 2028	*MLF official websites*	*Annual*	*MLF, TVLA, TMDA*	*MLF, National AMR Coordination Desk,*

23 https://www.who.int/publications/i/item/9789240069763

INDICATORS	Data Sources	Reporting Frequency	Responsible	To Where Reported
Number of dissemination meetings conducted in six regions by the year 2028	*MLF meetings report*	*Annual consolidate d reports*	*MLF,*	*MLF, National AMR Coordination Committee, Stakeholders*
Number of trained regulators, veterinary profes-sionals, and agro-vet retailers by the year 2028	*MLF VCT reports*	*Annually*	*MLF*	*MLF, National AMR Coordination Committee, Stakeholders, Prime Minister's Office Regional Administration and Local Government (PMO-RALG)*
Three AMR awareness campaigns conducted in 6 regions by 2030	*Nanenane reports*	*Annually*	*LGAs and RS*	*MLF*
At least 10% of the available alternative to antimi-crobials identified by 2030	*Academic and Research institutions (SUA, NM- AIST, TVLA, TALIRI) report*	*Annually*	*Academic and Research institution*	*MLF*
Overall biosecurity index Increased by 12% from 58% to 65% of farmers by 2030	*Academic and Research institutions (SUA, NM- AIST, TVLA, TALIRI) report*	*Annually*	*Academic and Research institution*	*MLF*
More than 5,000 poultry farmers in 6 targeted re-gions reached with AMR advocacy sessions by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
30% of poultry value chain actors (hatcheries, feed millers, farmers) in six participating regions partici-pate in quality chicken production advocacy ses-sion by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
20% of religious leaders in 6 targeted regions reached with AMR advocacy sessions by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
6 targeted regions conducted two Knowledge, Attitude and Practice (KAP) assessments on be-havior change related to responsible antimicrobial use among poultry farmers by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
60% of targeted farmers in 6 regions trained on biosecurity, vaccination, housing, and guided treat-ment by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
60% of targeted population in 6 regions receiving PUSH messages on biosecurity, adherence to vaccination	*District reports*	*Annually*	*LGAs and RS*	*MLF*

INDICATORS	Data Sources	Reporting Frequency	Responsible	To Where Reported
schedules, good housing and treatment by 2030				
RENOFARM toolkit components integrated into the reviewed Multisectoral Antimicrobial Resistance Communication Strategy by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
Farmer Field Schools (FFS) best practices documented and shared by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
Standardized AMR/AMU training materials developed and approved for use in primary and secondary schools by 2027.	*MLF report*	*Annually*	*DVS*	*MLF*
10% of schools in targeted 6 regions implementing AMR/AMU- related extracurricular activities by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
Increase vaccine coverage by 75% by 2030, using 2026 as the baseline year				
One Cloud - Based Veterinary Software (C-BVS) Developed and disseminated meetings in six regions by 2030	*Meetings report*	*Quarterly*	*LGAs and RS*	*MLF*
50% of farmers adopted bacterial vaccine by 2030	*Academic and Research institution (SUA, NM- AIST TVLA, TALIRI) report*	*Annually*	*Academic and Research institution*	*MLF*
Output 2.1 Number of farmers adopted bacterial vaccines	*50% of farmers adopted bacterial vaccine by 2030*	*Academic and Research institution (SUA, NM- AIST, TVLA, TALIRI) report*	*Annually*	*Academic and Research institution*
Output 2.2 Number of effective and efficacious vaccines	*50% of effective and efficacious vaccines identified by 2030*	*Academic and Research institution (SUA, NM- AIST, TVLA, TALIRI) report*	*Annually*	*Academic and Research institution*
Strengthen and expand the antimicrobial stewardship programme in poultry production by 10% by 2030, using 2026 as the baseline year				

INDICATORS	Data Sources	Reporting Frequency	Responsible	To Where Reported
Number of trained in services animal health professional on antimicrobial stewardship by the year 2030	*MLF Reports, VCT Reports*	*Annual*	*Lead (MLF) Regulator (VCT), Implementer (LGAs)*	*MLF (DVS)*
Percentage of trained veterinarians and Para veterinarians by the year 2030	*MLF Reports, VCT Reports*	*Annual*	*Lead (MLF) Regulator (VCT), Implementer (LGAs)*	*MLF, AMR Secretariat, International bodies*
Number of trained poultry farm attendants in six highly poultry producing regions by the year 2030	*MLF Projects Reports, DVOs LGA Reports*	*Annual*	*LGAs*	*Ministry of Livestock and Fisheries (MLF – DVS) International Partners (i.e. WOAH)*
Established E-learning platform for animal health professionals and number of registered users by the year 2030	*MLF Annual sector performance reports, One Health Coordination Section (P.M.O)*	*Annual*	*MLF, TVLA, Development Partners*	*MLF, WOAH, FAO*
20 AMU data training meetings conducted in 6 regions by 2030	*Meeting reports*	*Quarterly*	*LGAs and RS*	*DVS*
6 targeted regions conducted a situational analysis identifying patterns, gaps, and priority intervention areas for the use of medically important antimicrobials in poultry production by 2027	*Regional report*	*Once*	*LGAs and RS*	*MLF*
60 stakeholders (farmers, veterinarians, agro-dealers) from each participating region trained on antimicrobial stewardship for poultry farmers production, using standardized training materials, by 2030	*District reports*	*Annually*	*LGAs and RS*	*MLF*
Standardized AMU data collection tools, protocols, and guidelines developed, validated, and officially approved for use in poultry farms by 2028	*MLF report*	*Once*	*DVS*	*MLF*
50% of poultry farms in the targeted regions/districts consistently submit AMU data reports through the standardized system annually by 2030	*MLF report*	*Once*	*DVS*	*MLF*
6 targeted regions collected poultry feed samples and submitted them to the national reference laboratory for analysis of antimicrobial residues by 2030	*District report*	*Annually*	*LGAs and RS*	*MLF*
Increase at least 70% of veterinary practitioners implementing good practices to Standard Treatment Guideline (STG), Veterinary formula and National Veterinary Essential Medicine List (NEVML), by 2030	*LGAs, RS, academic and research institute reports*	*annually*	*DVS*	*MLF*
Reduce at least 70% of counterfeit and substandard antimicrobials by 2030	*TMDA, DVS, academic and Research*	*Annually*	*TMDA and DVS*	*MLF*

INDICATORS	Data Sources	Reporting Frequency	Responsible	To Where Reported
	institutions report			
Increased the number of poultry farmers adopting antimicrobial alternatives by30% by 2030,				
Thirty farmers trained best biosecurity practices from each 6 targeted regions by 2030	*FFS*	*Annually*	*LGAs and DVOs,*	*MLF*
A National poultry strategy in six selected regions (Farmer's voice- Sauti ya wafugaji Tanzania) implemented by 2030	*FFS*	*Annually*	*LGAs and DVOs,*	*MLF*
30 farmers trained in innovative management practices of poultry	*Field school farmers*	*Annually*	*LGAs and DVOs,*	*MLF*
Establish at least 1 one poultry FFS in 6 targeted regions per year by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs,*
2 trained facilitators for each FFS for 6 regions by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs*
Procure the required management tools and equipment each year for the FFS demonstration farms in the 6 regions by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs*
Conduct weekly training to 30 farmers for each FFS for 6 regions by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs*
Organize farmers field exchange program between FFS farmers for each FFS for 6 regions by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs*
Participate in National exhibition (Nanenane) for each FFS for 6 regions by 2030	*FFS*	*Annually*	*LGAs and DVOs*	*LGAs and DVOs*
Analyze at least 10 components or alternatives to antimicrobial used among farmers by 2030	*Academic and Research institution (SUA, NM- AIST, TVLA, TALIRI) report*	*Annually*	*DVS, TMDA*	*MLF*
Number of diagnostic stewardships for poultry diseases conducted				
20 diagnostic stewardship meeting campaigns conducted in six regions by 2030	*Meeting reports*	*Quarterly*	*LGAs and RS*	*DVS*
Six (6) diagnostics laboratories established at district level in six (6) regions by 2030	*Laboratory Operational assessment reports*	*Quarterly*	*LGAs and RS*	*DVS*
Capacitate At least 50% of veterinary diagnostic facilities in selected regions by 2030	*LGAs, RS, Academic and research institution*	*Twice annually*	*DVS*	*MLF*

9.0. ANNEXES

Annex 1: RENOFARM Toolbox

Tool	Description
National Action Plan	
FAO Action Plan on Antimicrobial Resistance 2021-2025	This document outlines the FAO Action Plan on Antimicrobial Resistance 2021–2025 which serves as a roadmap for focusing global efforts to address AMR in the food and agriculture sectors. The aim of this plan is to help accelerate progress in developing and implementing multi-sectoral National Action Plans to tackle AMR by calling attention to strategic priorities and areas of expertise for FAO support.
FAO Progressive Management roadmap (FAO-PMP-AMR)	The FAO-PMP-AMR serves as a guide to help member states put their NAPs into action. The progressive approach enables specific sectors to make step-by-step improvements toward the sustainable use of antimicrobials and management of AMR.
Tripartite AMR Country Self-Assessment Survey (TrACSS)	To monitor country's progress in the implementation of the national actions plans, an annual Tripartite AMR country self-assessment survey (TrACSS) has been jointly administered by FAO, WOAH, and WHO since 2016.
Farm 5Gs Checklist.	Practical whole-farm assessment and improvement tool cutting across Farm 5Gs framework including animal health, production and the wider enabling environment farmers depend upon (veterinary extension, regulations, labs, etc.). Link: *https://www.fao.org/antimicrobial- resistance/news-and-events/news/news-details/en/c/1756881/*
Surveillance and Monitoring	
FAO Assessment Tool for Laboratories and AMR Surveillance Systems (FAO-ATLASS)	FAO-ATLASS is a tool for assessing and defining targets to improve national AMR surveillance systems in the food and agriculture sectors.
Global Antimicrobial Resistance and Use Surveillance System	GHO GLASS data incorporates official national data from surveillance of AMR in humans (monitoring resistance and use of antimicrobial medicine), in the food chain, and the environment. It comprises routine and focused surveillance activities, and several surveys and studies.
Awareness and Advocacy	
World Antimicrobial Awareness Week Campaign Materials (WAAW)	The campaign website lists all former WAAW campaigns and associated advocacy materials for WAAW, which aims to increase awareness of global antimicrobial resistance and to encourage best practices among the public, health workers and policy makers to avoid the further emergence and spread of drug-resistant infections.
No time to waste: Securing the future from drug-resistant infections	This report presents the interagency coordination group's (IACG's) response to the request from Member States in the 2016 political declaration and makes recommendations for urgent action for consideration by the Secretary-General, Member States and other stakeholders in the global response to antimicrobial resistance.
Handle Antimicrobials with care. We can all help!	Infographic on AMR stewardship.
Training and Capacity Building	
Farmer Field Schools	Intervention studies on behavior changes in antimicrobial use among poultry farmers. Main activities are centered on Participatory Technology Development (PTD) with the farmer participants through 'Learning-by-Doing'.
Virtual Learning Schools	This course offers an overview of antimicrobial resistance (AMR) as a global threat to human, animal, and environmental health, and explains the role of the food and agriculture sector, and the impact of AMR on agrifood systems. It also describes how the Food and Agriculture Organization of the United Nations (FAO) is contributing to increased awareness and engagement of all stakeholders in the food and agriculture sector, to tackle AMR.

Tool	Description
Data Sharing	
The International FAO Antimicrobial Resistance Monitoring (InFARM) System and IT Platform	A platform to support countries in collecting, analyzing, and using their AMR data from animals and food for national purposes, and support countries willing to publicly share AMR data from food and agriculture sectors for global surveillance as a public common good for international advocacy and action to tackle AMR.
WOAH ANIMUSE	This online platform is an interactive and automated database that allows countries to report, access, analyze, and communicate data on antimicrobials intended for use in animals to different stakeholders. It features easier reporting, error detection, and data visualization tools. Ultimately, it aims to improve practices of Veterinary and Aquatic Animal Health Services regarding antimicrobial use.
Tripartite Integrated System for Surveillance on AMR/AMU	A dynamic Tripartite platform intended to make available/display in a user-friendly manner on a global and regional basis validated and official data provided by countries to FAO, OIE and WHO on patterns and trends in AMU and AMR in humans, animals, food, plants, and environment, while recognizing that different sectors may be at different levels of advancement.
Legal Framework	
One Health Joint Plan of Action 2022-2026	This tool is intended to guide the four organizations of the Quadripartite to work together on One Health with the aim of supporting their members to build One Health capacities. It provides a framework for action and proposes a set of activities that the four organizations can offer together to enable countries to advance and scale up One Health in managing human, animal, plant, and environmental health threats. The framework uses a One Health approach to strengthen collaboration, communication, advocacy, and coordination equally across all sectors responsible for addressing health concerns at the human-animal-plant- environment interface.
Technical and Legal elements for the development of a public policy on antimicrobial resistance in animal production	This document arises from the work in RAM of FAO RLC in the region and aims to offer technical and legal elements for the implementation of a National Public Policy on AMR with special emphasis on animal production, providing viable and effective tools for the fight against AMR from animal production, along with providing arguments to substantiate the importance of addressing AMR in the Strategic Agenda of the country.
Methodology to Analyze AMR- Relevant Legislation in the Food and Agriculture Sector	A methodology for the assessment of national legislation in AMR in relevant areas in the food and agriculture sectors.
Coordination, collaboration, and dialogue	
AMR Multistakeholder Partnership Platform	Facilitated by the Tripartite, the Platform will bring multiple stakeholders together across the human, animal, plant, and environment interface, assisting in preserving antimicrobials as lifesaving medicines for humans, animals, and plants, sharing best practices, agreeing on, and strengthening a shared global vision to take collective action on AMR.
Strategic Framework for Collaboration on Antimicrobial Resistance	The Strategic Framework is intended to reflect the joint work of the four organizations to advance a One Health response to AMR. Describes the comparative advantage and role of the four organizations in the One Health response to AMR in support of efforts by their members, civil society, the private sector and other stakeholders; and presents a theory of change including the goals, objectives, desired impact at country level, intermediate outcomes and related Quadripartite functions.
Husbandry and Health Services	
How to Reduce the Use of Antibiotics in Cattle	This leaflet will help to increase awareness on how to reduce the use of antimicrobials in dairy cattle. The document lists the ten key recommendations related to husbandry and animal health management that will eventually reduce antibiotics in dairy cattle.
Guide to good farming practices for animal production food safety	This Guide is intended to help Competent Authorities assist stakeholders, including farmers, to fully assume their responsibilities at the animal production stage of the food chain to produce safe food. Good farming practices should also address socioeconomic, animal health, and environmental issues in a coherent manner. The recommendations in the Guide

Tool	Description
	complement the responsibilities of the Competent Authorities at the farm level, particularly those of the Veterinary Services, and are intended to assist in developing on-farm quality assurance systems for animal product food safety. This document complements existing OIE, FAO, and Codex Alimentarius Commission (Codex) texts aimed at addressing animal health and welfare, socioeconomic and environmental issues related to farming practices
Small scale poultry production	This manual provides a comprehensive and valuable technical guide for those in government service or aid agencies, wishing to embark on projects that exploit the potential of small-scale poultry production to improve the livelihoods of the rural poor. All aspects of small-scale poultry production are discussed in this book including feeding and nutrition, housing, general husbandry and flock health. Regional differences in production practices are described.
Guide to good dairy farming practice	The Guide contains many individual practices that contribute to good dairy farming practices, covering the key aspects of animal health, milk hygiene, nutrition, welfare, the environment, and socio-economic management. These practices have been drawn from best practice guidelines and existing assurance schemes around the world, and so individual practices will vary in their applicability to various dairying regions.
How to Use Antibiotics Effectively and Responsibly in Dairy Production	This publication provides practical tips to the livestock producer aiming at improving animal health and hence reducing the use of antibiotics.
Critically important antimicrobials for human medicine: 6th edition	This document is intended for public health and animal health authorities, practicing physicians and veterinarians, and other interested stakeholders involved in managing antimicrobial resistance to ensure that all antimicrobials, especially critically important antimicrobials, are used prudently both in human and veterinary medicine.
Biosecurity	
Biosecurity	Biosecurity training coupled with hygiene education focuses on the modification of habits and behaviors of people to progressively reduce the risk of disease transmission. Better prevention and control of transboundary animal diseases (TADs) can be achieved when public services and producers work together to include practical and cost-effective biosecurity measures in all good animal production management practices.
Good Practices for Biosecurity in the pig sector	This document serves as a guide to veterinarians, other health professionals, and farmers to implement good practices for biosecurity in the pig sector. It targets developing countries and countries in transition.
Biosecurity for Highly Pathogenic Avian Influenza	This document looks at the basic principles of biosecurity within the overall framework of disease control, discusses species- and sector-specific issues, stresses the importance of situating biosecurity in appropriate economic and cultural settings, and makes the case for the role of communication.
Improve small and medium scale poultry farms with 3-zone biosecurity implementation	This policy brief serves as a guide to help small and medium scale poultry farmers improve 3- zone biosecurity implementation.
Vaccination	
Guidelines for Livestock Vaccination Campaigns	The information provided in these guidelines will be easy to take into the field and implement, and this contributes to the fight against the spread of livestock diseases including zoonotic ones.
Veterinary vaccines, principles and applications	This is the first book that provides a thorough review on a wide variety of topics regarding the role of veterinary vaccines, vaccine international standards, immune response, current and novel vaccines, production, and quality control and more importantly a comprehensive review of vaccines for 13 high impact transboundary and zoonotic diseases. The book encompasses 29 chapters written by 97 leading experts, spanning 51 academic institutions, private and public sectors, and regional and international organizations.

Tool	Description
Prudent Use	
Prudent and efficient use of antimicrobials in pigs and poultry	This manual is jointly applicable to veterinarians, other health professionals and farmers; a key to success in using antibiotics effectively and prudently is good dialogue among these professions. The manual is intended to assist pharmacists, veterinarians, other animal health workers, farm owners and their staff in using antibiotics in a prudent and medically efficient way without loss in productivity. The manual is targeted at farmers with commercialized medium- or large-scale production, veterinarians and other animal health personnel in non- EU Eastern European and Balkan countries, the Caucasus, and Central Asia, who are dealing with pigs and poultry.
How to use antibiotics effectively and responsibly in dairy production	The guide is intended to assist pharmacists, veterinarians, other animal health workers, farm owners and their staff in using antibiotics effectively and responsibly in dairy production.
How to use antibiotics effectively and responsibly in poultry production	The guide is intended to assist pharmacists, veterinarians, other animal health workers, farm owners and their staff in using antibiotics effectively and responsibly in poultry production.
How to use antibiotics effectively and responsibly in pig production	The guide is intended to assist pharmacists, veterinarians, other animal health workers, farm owners and their staff in using antibiotics effectively and responsibly in pig production.
Nutrition and Alternatives to Antimicrobials	
Animal Nutrition Strategies and options to Reduce the Use of Antimicrobials in Animal Production	This is a guide that can be consulted to establish best practices in animal nutrition, could allow the adoption of strategies to reduce the need for antimicrobials and contain antimicrobial resistance.
REPORT on Antimicrobial Usage and Alternatives for Prophylaxis and Performance Enhancement in Pig Populations in East and Southeast Asia	The objectives of this report are 1) to review the different pig production systems in the East and Southeast Asia region, 2) to review the antibiotic usage and its alternatives in intensive and semi-intensive pig farms in the East and Southeast Asia region and 3) to present the results of a risk assessment for comparing the effectiveness of possible alternatives to the use of antibiotics for controlling post-weaning diarrhea in the East and Southeast Asia region.

Annex 2: List of Contributors

The following experts participated in development of this National Roadmap for Reducing the Need for Antimicrobials in Poultry Production (2026–2030).

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