

REPUBLIC OF RWANDA



# ONE HEALTH STRATEGIC PLAN 2021-2026

June 2021

## FOREWORD

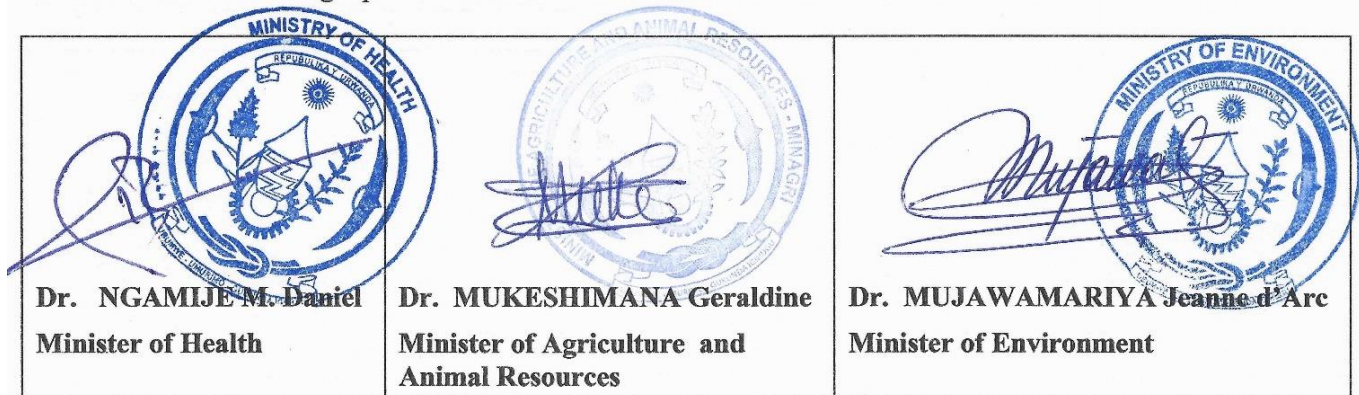
Mankind is facing many different challenges, which will require global solutions. One of these challenges is the occurrence and spread of infectious diseases that emerge (or re-emerge) at the animals (wildlife, domestic), humans and the ecosystems interfaces. This situation is a result of several factors, including the exponential growth in human and livestock populations, rapid urbanization, rapidly changing farming systems, closer interaction between livestock and wildlife, forest encroachment, changes in ecosystems and globalization of trade of animal and animal products.

Worldwide, lessons learnt from the prevention and control of Highly Pathogenic Avian Influenza H5N1 highlighted the need to shift to an integrative and holistic approach such as the One Health approach.

With the highest human density in sub-Saharan Africa and high human activity at environment, human and animal (wildlife, domestic) interface, Rwanda is at risk of occurrence and spread of emerging and re-emerging infectious diseases, which can affect the socio-economic growth. To overcome this challenge, the Ministry of Health, the Ministry of Agriculture and Animal Resources, Ministry of Environment, Ministry in Charge of Emergency Management and affiliated institutions, Rwanda Development Board, and development partners have closely worked together to develop this One Health Strategic Plan II (OHSP II).

The strategic plan for 2021-2026 reflects shared commitments to enhance collaboration between environmental, animal (wildlife and domestic) and human health, and continuing to build new One Health workforce capacity through higher institutions of learning. The strategy also outlines interventions to be undertaken by government institutions and other partners to enhance existing structures and pool together additional resources to prevent and control zoonotic diseases antimicrobial resistance and other events of public health importance.

Successful implementation of this strategy will contribute to the realization of the National Strategy for Transformation by improving public health, food safety and security, and hence significantly improve the socioeconomic status of the people of Rwanda. It is in this regard that we call upon implementing institutions, bilateral and multilateral partners, civil society and the private sector to join us in implementing the One Health strategic plan in Rwanda.



## TABLE OF CONTENTS

Table of Contents	3
Executive Summary	5
Table of Abbreviations	7
1. Introduction	8
1.1 Context and background	8
1.2. One Health as a cross cutting constant.	8
1.2.1. Zoonotic diseases and one health	8
1.2.2. Environment and one health	9
1.2.3. Climatic changes and one health	9
1.2.4. Food security, Food safety and One Health	10
1.2.5. Antimicrobial Resistance and One Health	10
1.2.6. Economy and One health	11
1.2.7. Vector Borne Diseases and One Health	11
1.3. Methodology of developing One Health Strategic Plan II	12
1.3.1. Preparation	12
1.3.2. Review of the Existing Strategic Documents	12
1.3.3. Development of OH Strategic Plan 2021-2026	12
1.3.4. validation of OH Strategic Plan 2021-2026	12
2. SITUATIONAL ANALYSIS	13
2.1. Summary Analysis of the previous strategic plan	13
2.1.1. Competitive positioning	13
2.1.2. Strategic Capabilities	13
2.1.3. Strategic Weaknesses	13
2.2. CURRENT SITUATION	13
3. STRATEGIC FRAMEWORK	17
3.1. Vision	17
3.2. Mission	17
3.3. Goals and Objectives	17
3.4. Guiding principles	20
4. Implementation Framework	21

4.1. Governance and Management	21
4.2. Strategy and Partnership	21
4.3. Resources mobilization	22
4.4. Monitoring and evaluation	22
4.5. Implementation framework and budget	23

## EXECUTIVE SUMMARY

Rwanda has the highest human density population in Africa and shares a border with countries where diseases such as Ebola, Rift Valley Fever, and Marburg have been declared in the past which puts her at risk. Furthermore, at the national level, the pressure of human activities at environment-animal and human interface creates complex problems and favorable conditions for sparking off animal (domestic and wildlife), human and plants emerging and re-emerging infectious diseases and other environmental or health related challenges. In the last five years, antimicrobial resistance and food security and safety have also become global issues calling for special attention.

This situation is not unique to Rwanda as has been shown at risk with pandemic highly pathogenic avian influenza H5N1 (HPAI H5N1) in 2006 originating from the wild birds and its spread around the world due to the socio-economic factors. During that period, MINAGRI and MINISANTE developed an HPAI preparedness and response plan for monitoring the disease. The main lesson learnt from the last two decades regarding the emerging and re-emerging infectious diseases has spotlighted the need to adopt a multi-sectoral, multi-discipline, integrative approach at local, national, regional and global level to prevent and control emerging and re-emerging infectious diseases in order to attain optimal health for people, animals and the environment. This approach or collaborative effort is called One Health.

Cognizant of these challenges and global issues and choosing to embrace One Health, in 2014 Rwanda conducted a situational analysis which assessed institutional collaboration on zoonotic disease surveillance, outbreak investigation and response and conducted interviews to ascertain whether One Health was integrated in the curricula for the schools of public health and veterinary medicine. Based on these findings and working collaboratively, the public, animal and environment health sectors developed the first Rwanda One Health Strategic Plan (ROHSP I) 2014-2018.

The Second Rwanda One Health Strategic Plan 2021-2026 (ROHSP II) therefore, comes to provide and re-assure partners but also the stakeholders of the re-commitment of all sectors to One Health. This Strategic Plan will bring to the fore its commitments and priorities for the coming five years and has taken into consideration what was done and what was not done in ROHSP I as well as capture and integrate potential One Health activities proposed in the HSSP IV and PSTA IV, Priority Zoonotic Diseases (PZDs) and the Joint External Evaluation (JEE) as well as the Performance of Veterinary Services (PVS) and the PVS -Gap analysis reports.

The One Health Strategic Plan II is designed to guide the government of Rwanda on how to tackle human, animal and plant health related complex problems using an integrative and comprehensive institutional, legal and technical framework. The strategic plan has been developed in a multi-sectoral and multi-disciplinary participatory and consensus building process.

This ROHSP II calls for proactive multi-sectoral and interdisciplinary engagement across the human, animal (including wildlife), and environmental health sectors. There is no doubt that when institutionalized as a formal multi-sectoral coordination approach, One Health will promote prevention efforts and save time in detecting and responding to an outbreak.

The One Health Multi-Sectoral Coordination Mechanism (OH-MCM) will assume the overall coordination and oversight regarding the implementation of this strategy. The One Health Multi-Sectoral Coordination Mechanism will be composed of heads of government institutions and representatives of development partners involved in One Health. It will be responsible for the overall governance including establishing strategies prioritizing, funding allocations and advocating and mobilizing resources for One Health. They will be assisted by technical working groups who will ensure technical aspects of program implementation and will be fully integrated into the appropriate operating units of key implementing partners through the annual action plans. A secretariat will be set up to support, coordinate and monitor implementation of project activities on daily basis.

## TABLE OF ABBREVIATIONS

AHI	Animal Human Interface
AMR	Antimicrobial Resistance
ARMV	Association Rwandaise des Médecins Vétérinaires
ARIS	Animal Resources Information System
CCC	Country Coordinating Committee
CCO	Chief Conservation Officer
CHAI	Clinton Health Access Initiative
ECTAD	Emergency Centre for Transboundary Animal Diseases
EID	Emerging Infectious Diseases
FAO	Food and Agriculture Organization
FELTP	Field Epidemiology and Laboratory Training Program
HSSP IV	Fourth Health Sector Strategic Plan 2018-2024
HPAI	Highly Pathogenic Avian Influenza
ISAVET	In-Service Applied Veterinary Epidemiology Training
OH-MCM	One Health Multi-Sectoral Coordination Mechanism
MINAGRI	Ministry of Agriculture and Animal Resources
MoH	Ministry of Health
NRL	National Reference Laboratory
OHCEA	One Health Central and Eastern Africa
OIE	World Organization for Animal Health
PSTA IV	Strategic Plan for Agriculture Transformation IV 2018-2024
PVS	Performance of Veterinary Services
RAB	Rwanda Agricultural and Development Board
RBC	Rwanda Bio-medical Center
RDB	Rwanda Development Board
REMA	Rwanda Environment and Management Authority
RMC	Rwanda Medical Council
RCVD	Rwanda Council of Veterinary Doctors
RwandaFDA	Food and Drugs Authority
ToRs	Terms of Reference
UGHE	University of Global Health Equity
UR	University of Rwanda
WAHIS	World Animal Health Information System
WFP	World Food Program
WHO	World Health Organization



## 1. INTRODUCTION

### 1.1 CONTEXT AND BACKGROUND

The second One Health Strategic Plan for Rwanda (ROHSP II) 2021-2026 is meant to provide and re-assure partners but also the stakeholders of the re-commitment of all sectors to One Health. This Strategic Plan will bring to the fore its commitments and priorities for the coming six years. ROHSP II will contribute to the country's commitment expressed in the National Constitution, National Strategy for Transformation (NST-1) and the aspirations of the different sector policies. ROHSP II has taken into consideration all key documents and it is anticipated that this time it will be implemented.

ROHSP II, takes into consideration the few significant results achieved during ROHSP I, specifically institutionalization of One Health (OH) in the University of Rwanda which led to the achievement of most of the activities in Goal 3 of ROHSP I and zoonotic disease prioritization. These achievements though minimal were possible because OH enjoys active support from the government of Rwanda and her Partners such as USAID and FAO.

There is need to leverage on this support and ensure that all key players/sectors in OH drop their silo thinking and work together to tackle challenges, address indicators with slow progress and embrace the ambitious but achievable objectives of ROHSP II. This will require commitment, innovation and strong management by all actors to ensure the implementation of results and attainment of the ambitious targets.

### 1.2. ONE HEALTH AS A CROSS CUTTING CONSTANT.

#### 1.2.1. ZOOONOTIC DISEASES AND ONE HEALTH

Most of the infectious diseases that are naturally transmitted between vertebrate animals and humans can be transmitted directly by contact with an animal (e.g., rabies), via contaminated environment (e.g., anthrax), via food (e.g., campylobacteriosis) or indirectly through bites by arthropod vectors (e.g. Leishmaniasis, RVF and Trypanosomiasis).The organisms causing zoonoses include viruses, bacteria, fungi, protozoa and vectors, with both domestic and wild animals acting as reservoirs for these pathogens.

Zoonotic diseases range from mild and self-limiting (e.g. most cases of toxoplasmosis) to fatal (e.g., Ebola hemorrhagic fever). Evidence based research has demonstrated that over 60% of human pathogens are of zoonotic origin, whereas 75% of diseases considered to be emerging or re-emerging are also zoonotic. Over the last 3 decades, new infectious agents and diseases affecting humans have emerged at a rate of more than one per year, sometimes resulting in high morbidity and mortality in humans and animals, and devastating effects on the people, their livelihoods and the national economies.



Many emerging and existing infectious diseases concern the global community because of their epidemic and endemic potential and their wide-ranging socioeconomic impacts. New viruses previously dormant in the environment for decades have started to emerge through a complex interaction of factors such as habitat destruction, climatic events and the encroachment of food-animal production into wildlife domains (i.e. Nipah Virus outbreak in Malaysia, 1999).

There are also many existing infectious diseases of domestic food-producing animals that cause huge socio-economic impacts. Some of these remain endemic in many developing countries, where they have been neglected.

---

### 1.2.2. ENVIRONMENT AND ONE HEALTH

Diseases of environmental- related cause have also led to tremendous pain and suffering. For example, most of recent cholera outbreaks have showed how important the environment breakdown can contribute significantly to the spread of environmental- related diseases. The speed with which these diseases spread across the increasingly interconnected globe, presents enormous public health, economic, and development concerns<sup>1,2</sup>. Therefore the environment-human-animal interface should be considered together when thinking of avoiding such catastrophes. .

---

### 1.2.3. CLIMATIC CHANGES AND ONE HEALTH

Climate change adds complexity and uncertainty to human and animal health issues such as emerging infectious diseases, food security, and national sustainability planning that intensify the importance of interdisciplinary and collaborative research. Collaboration between veterinary, medical, and public health professionals to understand the ecological interactions and reactions to flux in a system can facilitate clearer understanding of climate change impacts on environmental, animal, and human health.

Despite uncertainties surrounding Global Climatic Change (GCC) and ecosystem health, there are well-recognized disease-associated consequences of weather events. For instance, temperature driven and hydrology-driven increases in extreme weather events will play out in several ways. Obvious health-related effects from droughts or floods are immediate trauma, crop failures, food and water insecurities, and other population stressors.

Not so obvious, however, is the potential for increased human waterborne diseases (e.g., Giardiasis and Shigellosis) outside of disasters. For instance, public health data demonstrate that two-thirds of water borne disease outbreaks occur after rain events that are among the top 20% in terms of

---

<sup>1</sup> Jong-Wha Lee and Warwick J. McKibbin ESTIMATING THE GLOBAL ECONOMIC COSTS OF SARS

<sup>2</sup> George Verikios et al The Global Economic Effects of Pandemic Influenza Available at [www.monash.edu.au/policy/ftp/workpapr/g-224.pdf](http://www.monash.edu.au/policy/ftp/workpapr/g-224.pdf)

intensity, most of which do not qualify as disasters<sup>3</sup>. As extreme weather events increase in frequency, so too will outbreaks of waterborne diseases among humans. There is no reason to assume a similar dynamic does not occur among domestic animal and wildlife.

One of the vector borne diseases associated with climate change is Rift Valley Fever (RVF). It is a peracute or acute zoonotic disease of domestic ruminants in Africa. It is caused by a single serotype of a mosquito-borne bunya virus of the genus Phlebovirus. The disease occurs in climatic conditions such as heavy rain and flooding, favoring the breeding of mosquito vectors.

---

#### 1.2.4. FOOD SECURITY, FOOD SAFETY AND ONE HEALTH

The livestock sector is an area in which One Health thinking and action can make a difference to lives and livelihoods. For the 75% of the world's poor that are rural and dependent on agriculture, disease outbreaks in livestock not only put at risk their immediate food source, but it also puts at risk their livelihoods and resilience capacity – and that affects their long-term food security.

Disease outbreaks which reduce the availability of live animals and livestock products can reduce household income, undermine the diets of household members, impair nutritional status and increase risks to health, especially of women and children. Outbreaks can also impair the wider market availability for those products. Chronic food insecurity also drives risky behaviors related to animals: no one who is well-fed would consider consuming the carcass of an animal that has died of disease.

---

#### 1.2.5. ANTIMICROBIAL RESISTANCE AND ONE HEALTH

Antimicrobial resistance (AMR) is a major challenge to global health. It has been estimated that if no action is taken against AMR, it will be the leading cause of death with 10 million victims per year by 2050. For the past few decades, AMR has been a growing threat to effective treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi<sup>4</sup>.

The magnitude of the problem worldwide and its impact on animal and human health, on costs for the relevant sectors and in wider society are still largely unknown. AMR also threatens the achievement of several of the United Nations' Sustainable Development Goals, particularly the targets for good health and well-being. However, no single action will, in isolation, provide an adequate solution. Resistant bacteria and infectious diseases do not respect borders. No individual Member State can tackle the problem on its own. Therefore, countries all over the world have been developing approaches in line with One Health principles to tackle AMR.

---

<sup>3</sup> Smith RD, Keogh-Brown MR, Barnett T, Tait J. The economy-wide impact of pandemic influenza on the UK: a computable general equilibrium modeling experiment. Available at <http://www.bmj.com/content/339/bmj>.

<sup>4</sup>Antimicrobial Resistance: A MANUAL FOR DEVELOPING NATIONAL ACTION PLANS Version 1 February 2016. ([https://apps.who.int/iris/bitstream/handle/10665/204470/9789241549530\\_eng.pdf;jsessionid=B92F87D5BBC4C0602310E5CA62B8DEC2?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/204470/9789241549530_eng.pdf;jsessionid=B92F87D5BBC4C0602310E5CA62B8DEC2?sequence=1))

One Health in light of AMR, describes a principle which recognizes that human and animal health are interconnected, that diseases are transmitted from humans to animals and vice versa and must therefore be tackled in both. It also encompasses the environment, another link between humans and animals and likewise a potential source of new resistant microorganisms.

In a tripartite approach, FAO, OIE and WHO recognize that addressing health risks at the human–animal-plant-ecosystems interfaces requires strong partnerships among entities that may have different perspectives and different levels of resources. Such partnerships, which could include international organizations, governments, private sector, civil society, private sector and donors, must be coordinated to minimize the burden on Member States of multiple monitoring, reporting and delivery systems and to avoid duplication of effort and fragmented outcomes<sup>5</sup>.

---

#### 1.2.6. ECONOMY AND ONE HEALTH

Despite the catastrophic socio-economic consequences of infectious diseases such as malaria and HIV/AIDS, the impact of epidemics has been considerably under-researched in economics. Traditionally, studies have attempted to estimate the economic burden of an epidemic based on the private and non-private medical costs associated with the disease, such as expenditures on diagnosing and treating the disease.

The costs are magnified by the need to maintain sterile environments, implement prevention measures, and conduct basic research. The costs of disease also include income forgone as a result of disease-related morbidity and mortality. Forgone income is normally estimated by the value of workdays lost due to the illness. In the case of mortality, forgone income is estimated by the capitalized value of future lifetime earnings lost to the disease related death, based on projected incomes for different age groups and age-specific survival rates<sup>6</sup>.

---

#### 1.2.7. VECTOR BORNE DISEASES AND ONE HEALTH

The connectedness and interdependence of animal and human health, all encompassed in environmental health demand full embrace of one health concept as a strategy to prevent the emergence and global spread of vector-borne pathogens. Any sustainable approach must include building relevant capacity, both human and technical, and implementing intervention programs at the sources of potential infection and epidemics.

In the recent years, the development of agriculture in Rwanda has led to an important transformation of the ecological landscape, creating suitable habitats for different vectors such as

---

<sup>5</sup>The FAO-OIE-WHO Collaboration, a tripartite concept note. Geneva: WHO; 2010

([http://www.who.int/influenza/resources/documents/tripartite\\_concept\\_note\\_hanoi\\_042011\\_en.pdf](http://www.who.int/influenza/resources/documents/tripartite_concept_note_hanoi_042011_en.pdf))

<sup>6</sup>Zinsstag J, Schelling E, Waltner-Toews D, Tanner M. From "One Medicine" to "One Health" and systemic approaches to health and well-being. *Prev Vet Med.* 2011 Sep 1;101(3-4):148-56

malaria vectors and Bilharzia vectors. The evidence shows that the introduction of intensive irrigation agriculture and other economic activities such as mining increases malaria transmission.

Vector control therefore needs a multi-disciplinary, multi sectoral collaboration for it to be successful and Rwanda is on a good track in this regard. As the health sector fights adult mosquitoes, the Agriculture sector and other stakeholders such as mining sector fight the different larvae as well as other vectors such as snails which carry Bilharzia vectors

### 1.3. METHODOLOGY OF DEVELOPING ONE HEALTH STRATEGIC PLAN II

The development of the ROHSP II, was an inclusive, participatory and consensus building process. The assignment was carried out by One Health Multi-Sectoral Coordination Mechanism (OH-MCM) after further review of the strategic plan by policy makers.

---

#### 1.3.1. PREPARATION

Based on the assignment terms of reference, initial meetings were held to understand terms of reference, clarify expectations, agree on a plan of action, seek additional literature and clarify logistics.

---

#### 1.3.2. REVIEW OF THE EXISTING STRATEGIC DOCUMENTS

A review of all relevant documents such as the 2014-18 OHSP, the workforce synthesis report, the health sector, Agriculture, environment and education national strategic plans and any other related literature was done during this step.

---

#### 1.3.3. DEVELOPMENT OF OH STRATEGIC PLAN 2021-2026

Drafts of the OH Strategic Plan 2021-2026 were produced and discussed among key stakeholders in various technical meetings. Comments received from the stakeholders were used to enrich the strategic plan.

---

#### 1.3.4. VALIDATION OF OH STRATEGIC PLAN 2021-2026

A validation workshop was organized and relevant feedbacks gathered from participants, were incorporated to produce the final version of the ROHSP II.

## 2. SITUATIONAL ANALYSIS

### 2.1. SUMMARY ANALYSIS OF THE PREVIOUS STRATEGIC PLAN

The previous One Health Strategic Plan came to an end in 2018 and creates a need for the new strategic plan to consider current trends in One Health approach.

---

#### 2.1.1. COMPETITIVE POSITIONING

The original idea of setting up a One Health Country Coordinating Committee was to have a group of technicians from different sectors and partners to advocate for OH in their own institutions and sectors. The biggest challenge of this committee with a rotational leadership was limited accountability mechanisms.

This creates a need for Multisectoral coordination Mechanism across the sectors responsible for addressing health concerns at the human-animal-environment interface. It shall have a routine, ongoing functions and be responsible for coordination, leadership, and governance of efforts among the relevant sectors to achieve jointly determined and agreed common goals.

---

#### 2.1.2. STRATEGIC CAPABILITIES

One key strategic capability that underpins the One Health Country Coordinating Committee is its diversity in terms of expertise (which is what OH is all about anyway) hence the opportunity for cross sector relationships and collaborations. Secondly, the momentum built at the beginning of the OH strategic plan development and soon after reverberated well with the donors/partners.

---

#### 2.1.3. STRATEGIC WEAKNESSES

The key weakness of the One Health Country Coordinating Committee is its lack of official positioning anywhere in the government structure and although the members are designated by their institutions and appointed by the Minister of Health.

### 2.2. CURRENT SITUATION

Rwanda embraced One Health in 2011 and many activities have been implemented under this framework up to date. A One Health Steering Committee (now called the One Health Multi-Sectoral Coordination Mechanism – OH-MCM) was set up to lead and advise on matters related to One Health. Through this mechanism, the first national One Health Strategic Plan (ROHSP 2014-2018) was developed and several joint activities like zoonotic disease prioritization including

development of preparedness and response plans for three of the six priority zoonotic diseases i.e. RVF, HPAI and Rabies were carried out. Areas of multi-sectoral collaboration for zoonotic disease surveillance, outbreak investigation and control were identified. The One Health Steering Committee was assessed using the One Health Planning for Performance tool (OH-P4P) and actions to improve its efficiency identified and discussed.

Under the same mechanism, many other activities were conducted by the University of Rwanda (UR) through the One Health Central and Eastern Africa University Network. For example, a total of 528 final year undergraduate students from different disciplines and programs were trained in One Health. In addition, from 2015 to 2019, 204 students from different disciplines were involved in field practicum activities to harness hands-on learning experiences using a multi-disciplinary collaboration.

In parallel to field experiential learning, UR reviewed undergraduate and postgraduate curricula for veterinary, public health, environmental health sciences, nursing and nutrition in order to integrate OH modules and concepts. Faculty staff have also been trained on the use of new methodologies for teaching in and out of the classroom including problem-based learning, instructional design, experiential education and online learning. Since 2013 numerous activities have been implemented to strengthen students as future professionals (workforce), through the Students One Health Innovation Club that boasts over 700 graduate and undergraduate students.

It is also important to note that there are some cross-sectoral and institutional strength that can be built on. This includes but is not limited to a) the presence of an electronic surveillance reporting system for both human and animal health, b) human and animal health systems that are well decentralized down to the community level, c) collaborative activities that exist within the human, environment and animal health experts mainly through the rapid response team and d) wildlife and agriculture and human health sectors, that have well-equipped laboratories to monitor and control risk of epidemics, though the human resource capacity still needs to be improved.

However, there were still many challenges especially related to governance, coordination and accountability that ultimately led to the failure to implement One Health in a proper multi-sectoral approach. On top of this, the delineation of tasks and mandates among public institutions makes for a segmented organization of work in which institutions operate independently of one another and from the perspective of their respective discipline or sector.

It was noticed that most of the documents were not specific about One Health gaps. It was also noted that most of the sectors share the same issues namely limited resources (both HR and financial) to carry out their activities. In a 2017 synthesis report on the identified workforce technical and cross-sectoral training gaps in Rwanda, the OH-SMART tool that was used showed that most of the discrepancies or needs are shared across sectors. To get a clear understanding of the challenges, gaps, opportunities and strength, all of these were categorized in line with prevention, response to and recovery from infectious and zoonotic diseases.

### **a) Detection and prevention of zoonotic diseases and other public health threats**

Several cross-sectoral gaps in preparedness and prevention of zoonotic diseases and other public health threats were identified and these include:

- Limited skills to apply for research grants (sector-specific and multi-sectoral) which ultimately limits the acquisition of funds to prepare well and prevent zoonotic diseases and other public health events.
- Minimal multidisciplinary formal training at university level for infectious disease management, which means that the graduating veterinary and medical professionals do not have the required skills to prevent or prepare for a potential threat.
- Among those in service, on-the field refresher training on biosafety is poor, leaving the different professional unprepared to detect in advance potential threats and prevent them.
- There are very few joint simulation exercises that bring together both human and animal health services which makes it difficult to prepare properly for prevention measures in a One Health spirit.
- Inefficient cross sectoral coordination and organization for priority zoonotic diseases in which institutional gaps in terms of detection and prevention of zoonotic diseases and other public health threats were found.
- Universities do not have enough programs that address OH training, resulting in a workforce unprepared to work in a One Health spirit when it comes to prevention and detection of zoonotic and other infectious diseases.
- Universities, MOH and MINAGRI have not carried out a comprehensive and long-term health workforce review, joint researches and projections so it is difficult to know the few One Health trained workforce that are on the market.
- Lack of a tested operational multi-sectoral communication plan that covers all phases of a pandemic (pre, during and post)
- Limited number of guidelines in place to limit transmission of zoonotic diseases made worse by silo thinking within institutions that prevents smooth multi-sectoral engagement.

### **b) Response and recovery from zoonotic diseases and other public health threats.**

- Regarding response and recovery from zoonotic diseases and other public health threats, there are several cross-sectoral gaps identified and these are;
- At University or college level (for example at the college of medicine and health sciences or college of agriculture and veterinary medicine, rarely do they carry out joint training on zoonotic disease testing and diagnosis. Thus means that most veterinary and medical professionals have poor knowledge of emerging or re-emerging infectious diseases which would make response to such events difficult for them.
- Future employers are not always involved in mentorship of future employees which makes it difficult for the latter to learn field skills in responding to infectious diseases. On top of this, there is a limited communication between government and the public sector and the university sector to understand the needs of employers.



- Shortage of laboratory staff with skills to diagnose zoonotic diseases e.g. avian influenza
- Limited regular communication and information sharing between animal and human health sectors makes it difficult to have an organized response or recovery if there was to be an outbreak such as *Ebola*.
- Financial and human resource constraints for diagnosis of zoonotic diseases is also a major setback to preparing field-worthy professionals who can respond to an emergency.
- Over dependence on donor-support means that some activities (especially those that are cross cutting) may not be done due to funder restrictions or lack of funds.
- Lack of joint reporting and surveillance protocols across human and animal (domestic, wildlife) sectors for most zoonoses.

In the same analysis, gaps related to institutional capacity were also found. These included but were not limited to:

- Heavy workload at the National Reference Laboratory (NRL) because of limited capacity of the national satellite laboratories and also high demand of services from various clients which make it difficult to communicate results for a quick response.
- Limited fiscal space that ultimately affects staff preparedness and readiness to respond to emergency threats.
- Lack of diagnosis protocols for some priority zoonotic diseases

### 3. STRATEGIC FRAMEWORK

#### 3.1. VISION

The One Health Policy sets the vision as: ‘Human, Animal and Environment Health outcomes in Rwanda are optimized through multisectoral collaboration, coordination and communication’

#### 3.2. MISSION

The mission as set by One Health Policy is to establish a collaboration, coordination and communication mechanism to ensure improvement of health and well-being outcomes of humans, animals and plants and to promote environmental resilience.

#### 3.3. GOALS AND OBJECTIVES

The global objective of One Health Policy is to enable environment for collaboration and coordination among human, animals (domestic, wildlife) and environment to achieving optimal health outcomes in the management of emerging and re-emerging infectious including plant diseases, zoonotic, vector-borne diseases, food-borne diseases AMR and other public health issues.

This global objective will be attained through the following six strategic objectives:

**Objective1: Create an effective platform to enhance policy, institutional, operational coordination and collaboration amongst different relevant stakeholders**

It is imperative to create an effective platform which brings together all sectors to map the activities of the various players and thus avoid the duplication of efforts/activities. The platform shall act to strengthen and develop collaboration, communication, and coordination across the sectors responsible for addressing zoonotic diseases and other public health concerns at the human-animal-environment interface

The platform shall be created by A Prime Minister’s Instructions establishing One Health Multi-Sectoral Coordination Mechanism and determining its mission, organisation, competence and functioning. The National OH Multi-sectoral Coordination Mechanism (OH-MCM) that shall assume the overall coordination and collaboration among different relevant stakeholders on all matters related to OH and shall be supported by technical working groups and a vibrant secretariat through which coordination of the sectors and all reporting would be channeled.

Cognizant of the above, OH-MCM will ensure establishing a framework for multidisciplinary collaboration among stakeholders in OH and enhancing national awareness for target groups on OH concept.

**Objective 2: Put in place a joint surveillance system to prevent, early detect, respond rapidly to and recover from zoonotic diseases, vector-borne diseases, food-borne diseases, AMR and other public health issues.**

surveillance is fundamental to disease prevention, detection and response including assessment of effectiveness of the various interventions. The necessity for collaboration, communication, and coordination implies a need for a joint surveillance system to prevent, early detect, respond rapidly to and recover from zoonotic diseases, vector-borne diseases, food-borne diseases, AMR and other public health issues.

While medium- to long-term plans for surveillance systems and capacity building are ongoing, there will be need to respond to emergencies arising from epidemics of known zoonoses and unknown emerging infections, most of which are also zoonoses. The threat of AMR and other public health threats like mycotoxin needs to be responded to in the same fashion as zoonotic diseases.

**Objective 3: Build and develop One Health workforce capacity in order to bridge the knowledge and skills deficits in detection, preventions and response to emerging and re-emerging infectious (plant, animal, human) diseases and other public health threats**

The competencies frameworks in terms of One Health for veterinary doctors, Animal health professionals, health crops pathologist, and health professionals shall be reviewed to serve as a basis to promote OH approach in formal and informal training. Integrated advanced training opportunities to mentor and develop future leaders in OH education, research and implementation shall be promoted and developed.

Professionals with a One Health mindset are essential to the institutionalization of OH and therefore in different pre-service curricula, One Health education with emphasis on zoonotic diseases, plant diseases, antimicrobial resistance, drug and food safety and communication will be promoted.

A harmonized approach to epidemiology capacity building program through in service applied epidemiology training tailored to the needs of the crops, animal, public and environment health sectors will be implemented

Continuous upgrade of the skills and knowledge of health personnel shall be ensured through training and information exchange on disease surveillance and epidemic preparedness and by

strengthening a system of management including coordination and networking through continuing professional development (CPD) already institutionalized across professional bodies.

**Objective 4: Promote applied research and innovations at the human-animal-environment interface to generate evidence that inform policy, guide interventions, legal and regulatory frameworks.**

For priority zoonotic diseases, much still remains unknown including the sources and drivers of disease emergence and re-emergence, factors enhancing spread, mechanisms of pathogen maintenance and persistence including ecology. Reliable risk maps for priority zoonotic diseases and understanding the socio-economic impact of such diseases on livelihoods and government is important in targeted and effective prevention and control measures.

Activity under promoting applied research at the human-animal-ecosystem and enhancing national, regional and international networking with the scientific community on zoonotic diseases and other public health threats. This will be accomplished by holding national and regional scientific workshops targeting universities and research institutions to present on neglected zoonotic diseases, including training and mentorship on OH to veterinary, medical, and public health trainees.

**Objective 5: Strengthen national awareness mechanisms for the general public around zoonotic diseases, vector-borne diseases, plant diseases, AMR and other public health issues.**

Awareness seminars regarding zoonotic diseases, vector-borne diseases, plant diseases, AMR and other public health issues shall be carried out and reach the decentralized level (at sector level) These shall be preceded by a baseline assessment on knowledge, attitude and practices on food safety and One Health among these leaders.

Awareness campaigns shall explore different strategies such as media adverts targeting consumers, reaching out to farmers directly through seminars or mass campaigns at the grass roots, and integrated lessons for agronomists, animal health extensions workers and community health workers.

**Objective 6: Ensure that there is a clear, systematic, predictable, sustainable and well-coordinated approach to mobilizing, acquiring, utilization, management, reporting, monitoring and evaluating domestic and external resources.**

Ensuring a clear, systematic, predictable, sustainable and well-coordinated approach to mobilizing, acquiring, utilization, management, reporting, monitoring and evaluating domestic and external resources shall require development of necessary tools for effective resource mobilization from the government and its stakeholders and promotion of efficient resources management.

The OH MCM shall ensure strong and sustained commitment to good governance, effective communications, enhanced awareness and involvement of all key stakeholders by developing and executing a clear resource mobilization strategy agreed upon and owned by all key stakeholders.

#### 3.4. GUIDING PRINCIPLES

This Strategic Plan is guided by the following key principles:

- Prevention and control of Emerging Infectious Diseases (both zoonotic and non-zoonotic) benefits public health and requires strong political and financial commitment at national and sub-national levels
- For sustainability, utilization of existing institutions and whenever possible, drawing on lessons learned to refine strategies and interventions
- A multidisciplinary approach is required to realize technical, political, and regulatory frameworks required to address Emerging Infectious Diseases
- The strategy should be science-based and continually adjust to new information and technologies and to the changing environment.
- Consistent inclusion of all relevant sectors, as defined in the IHR and Tripartite Zoonosis Guide (TZG), in all activities, starting from their planning stages.

## 4. IMPLEMENTATION FRAMEWORK

### 4.1. GOVERNANCE AND MANAGEMENT

A governance and management mechanism shall be set up to strengthen synergies and ensure an optimum participation of all key actors and effective implementation and utilization of the available resources (human, information, logistics and finance).

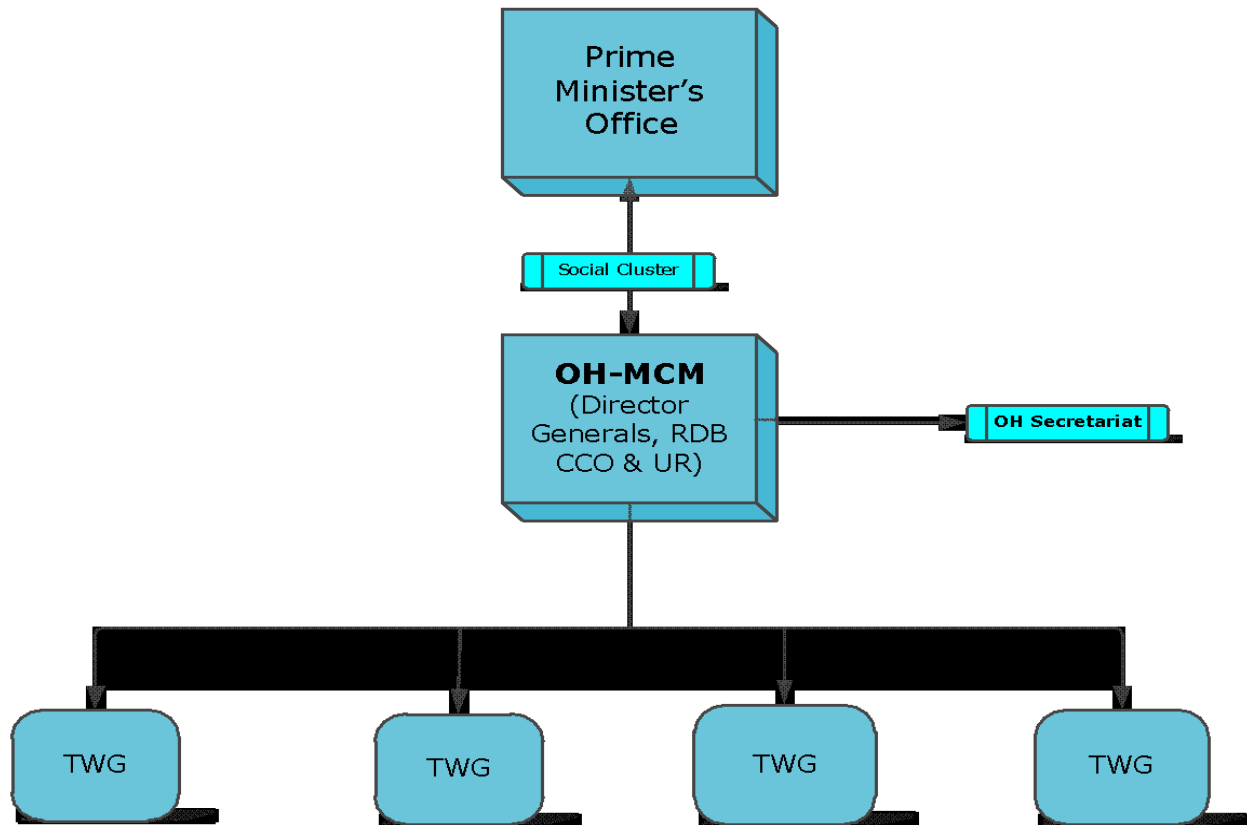


Fig 1: Proposed OH Multi-Sectoral Coordinating Mechanism for Rwanda

The One Health Multi-Sectoral Coordinating Mechanism (OH-MCM) will assume the overall coordination and oversight regarding the implementation of this strategy. The mission, organisation, competence and functioning One Health Multi-Sectoral Coordination Mechanism shall be set by a Prime Minister's Instructions.

### 4.2. STRATEGY AND PARTNERSHIP

Effort will be made to develop meaningful and productive institutional partnerships among the traditional public, animal and wildlife health sectors, and also among social and public financing sectors, and also promote the public private partnership.

Contingency planning and action will be achieved through a regulatory instrument (policy) and/or less formal mechanisms such as a memorandum of agreement. Set-ups will be adapted to varying needs during an outbreak, inter-epidemic or inter-pandemic periods.

#### 4.3. RESOURCES MOBILIZATION

The OH-MCM will provide an oversight of resource mobilization and will set priorities with regards to the availability of resources and a resource mobilization strategy shall be developed for this purpose. Resources shall be mobilized from Government and development partners.

#### 4.4. MONITORING AND EVALUATION

Monitoring and evaluation will be an important aspect of this strategic plan. It shall provide the mechanisms for monitoring, reviewing, and evaluating progress towards achieving objectives of One Health Strategic Plan 2021-2026. The implementation of this plan will be evaluated against the performance indicators. It is imperative to elaborate a comprehensive and detailed annual action plan from which a monitoring mechanism will be established. The main sources of data for monitoring, review and evaluation of the strategic plan will be from progress reports from the sub-recipients.



4.5. IMPLEMENTATION FRAMEWORK AND BUDGET

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
<b>Objective One: Create an effective platform to enhance policy, institutional, operational coordination and collaboration amongst different relevant stakeholders</b>											
1.1.	Develop a National One Health Policy	Hire Consultant	Policy document available	OH-MCM	X						<b>10,000,000</b>
		Validate the policy	Policy document available	OH-MCM	X						<b>5,833,609</b>
		Institutionalize the policy	OH policy documents visible in sector strategic documents	OH-MCM	X	X	X	X	X	X	<b>0</b>
1.2.	Strengthening OH-MCM	Draft a Prime Minister's Instructions establishing One Health Multi-Sectoral Coordination Mechanism and determining its mission, organisation, competence and functioning	Gazetted Prime Minister's Instructions	OH-MCM	X						<b>4,000,000</b>
		Establish physical OH secretariat	Physical OH Secretariat present and functional	OH-MCM	X	X	X	X	X	X	<b>201,039,735</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
1.3	Develop contingency plans for potential zoonotic disease and other public health threats	Organize workshops for elaboration and validation of specific contingency plans	No. of contingency plans developed	OH-MCM	X	X					<b>32,562,445</b>
		Organize internal and cross border simulation exercises to improve operationalization of the validated contingency plans	No. of Internal and cross border simulation exercises conducted	OH-MCM	X	X	X	X	X	X	<b>60,000,000</b>
		Identify prioritized interventions for the prioritized health concerns	Specific interventions identified	OH-MCM	X	X	X	X	X	X	<b>13,686,000</b>
		Implementation of recommendations provided by the technical working groups who are working on the prioritized zoonotic diseases	Reports provided by TWGs available	OH-MCM	X	X	X	X	X	X	<b>60,000,000</b>
1.4	Strengthen the implementation of joint prevention and control strategies for zoonotic diseases and	Organize workshops for review and development of standard operating procedures (SOPs) for pre-analytical, analytical and post-analytical activities	Number of SOPs developed and validated	OH-MCM	X	X	X	X	X	X	<b>19,335,484</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
	other public health events										
1.5	Implement OH plans for jointly responding to epizootics and other public health threats	Conduct joint outbreak investigation and communication	Number of joint outbreak investigations conducted	OH-MCM	X	X	X	X		X	<b>1,991,659,355</b>
		Conduct joint outbreak response and management evaluation	Number of joint outbreak evaluations conducted	OH-MCM	X	X	X	X	X	X	<b>1,040,082,033</b>
1.6	Develop an integrated global package of activities to combat antimicrobial resistance in a One Health approach	Develop a National Action Plan for AMR, using One Health approach	AMR action plan available	OH-MCM	X						<b>30,000,000</b>
		Review current or develop new national legislation/instructions on monitoring AMR in zoonotic and commensal bacteria in farm animals and food	New or revised legislation present	OH-MCM	X	X	X	X	X	X	<b>2,000,000</b>
		Identify and assess under the national Animal Health Law, resistant bacteria that cause transmissible animal diseases and, if necessary, develop	List of resistant bacteria published	OH-MCM	X	X	X	X	X	X	<b>2,000,000</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		harmonized rules for their surveillance									
1.7	Control Vector Borne diseases	Develop a mitigation plan for any human activity and/ or development projects that can potentially create a larval habitat	Mitigation plan for larval management available	OH-MCM	X						10,000,000
		Harmonize cross-border strategic plans for IVM	A harmonized cross border strategy available	OH-MCM	X						82,367,000
		Develop vector control guidelines and strategies	Developed guidelines and strategies available	OH-MCM							10,000,000
		Build a laboratory for entomology and insecticide resistance monitoring	Lab up and running	OH-MCM	X						276,789,000
		Organize trainings on vector control and entomological monitoring	No. of trainings carried out	OH-MCM	X	X				X	60,000,000
		Rehabilitate abandoned mine sites to prevent vector	No. of abandoned mine sites rehabilitated	OH-MCM	X	X	X			X	565,268,000

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		breeding opportunities.									
		Support mine inspections to ensure progressive rehabilitation of mined sites.	No. of site inspections carried out	OH-MCM	X		X				<b>85,056,000</b>
<b>Objective 2: Put in place a joint surveillance system to prevent, early detect, respond rapidly to and recover from zoonotic diseases, vector-borne diseases, food-borne diseases, AMR and other public health issues.</b>											
2.1	Establish a comprehensive system and protocol for the surveillance of diseases in the wildlife, livestock and human interface	Conduct baseline assessment to identify non-primate wildlife and related diseases for surveillance system within protected areas	Baseline assessment report available	OH-MCM	X						<b>10,000,000</b>
		Develop a harmonized surveillance technical guideline for One Health priority diseases	Document on technical wildlife surveillance	OH-MCM	X	X					<b>7,403,226</b>
		Establish a support system for epidemiological data collection system	No. of collection, analysis and storage materials availed	OH-MCM	X	X					<b>608,949,871</b>
		Upgrade the existing laboratory capacity for surveillance of One	Report on establishment of interconnectivity of existing	OH-MCM	X	X	X	X	X	X	<b>215,619,871</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		Health priority diseases	wildlife surveillance systems								
		Recruit staff to support disease surveillance of wildlife within the protected areas of the country	No. of staff recruited for every national park	OH-MCM	X	X	X	X	X	X	<b>430,112,795</b>
2.2	Develop an integrated approach for monitoring, collection, management, analysis and dissemination of data on zoonotic diseases, vector-borne diseases, food-borne diseases, AMR and other public health issues.	Workshop to review and adapt existing surveillance guidelines and other surveillance technical documents	Workshop report	OH-MCM	X				X		<b>12,281,223</b>
		Production and distribution of reviewed and adapted surveillance technical documents	No. of reviewed and adapted surveillance technical document produced and distributed	OH-MCM	X				X		<b>2,961,290</b>
		Organize quarterly meetings for sharing information on surveillance activities in human, livestock, wildlife and environment interface	No. of meetings organized	OH-MCM	X	X	X	X	X	X	<b>16,671,995</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)	
					2021	2022	2023	2024	2025	2026		
		Establish the OH Bulletin for dissemination of findings from each sectoral surveillance system through quarterly OH bulletin	No. of OH bulletins produced and disseminated	OH-MCM	X	X	X	X	X	X	<b>2,000,000</b>	
2.3	Support existing surveillance systems within OH member institutions	Extend the existing gorilla surveillance system to other selected primates	Report of extension of gorilla surveillance system to other selected primates	OH-MCM	X	X	X	X	X	X	<b>231,823,703</b>	
		Maintain, upgrade and adapt the existing electronic surveillance system (eIDSR, IMPACT, WAHIS and ARIS) and ensure their inter-operability	reports on maintenance, system upgrade and interoperability among existing systems	OH-MCM	X	X	X	X	X	X	<b>23,844,829</b>	
		Establish electronic surveillance system for livestock diseases and ensure interoperability with other systems in spirit of OH	Electronic surveillance system in place	OH-MCM	X	X						<b>80,477,419</b>



#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)	
					2021	2022	2023	2024	2025	2026		
2.4	Evaluate and map out laboratory capacities and resources in each sector for detection of zoonotic diseases and other public health events. Identify gaps	Conduct assessment of laboratory capacities in existing Human, Animal and Wildlife central laboratories for detection of priority zoonotic disease, and prepare capacity development plan	Assessment findings report and capacity development plan available	OH-MCM	X							<b>22,959,377</b>
		Organize workshop to review findings and prioritize capacities to improve based on available resources	No. of workshop conducted	OH-MCM		X						<b>2,000,000</b>
2.5	Establish linkage of laboratory networks between human and animal sectors	Conduct a workshop to develop a framework for collaboration and laboratory capacity	No. of workshop conducted	OH-MCM		X						<b>38,051,257</b>
			Framework for collaboration in place	OH-MCM	X	X	X	X	X	X		<b>38,017,742</b>
		Conduct quarterly meetings to share regular updates between laboratories	No. of meetings conducted with minutes	OH-MCM	X	X	X	X	X	X		<b>24,429,532</b>
2.6	Enhance existing lab to diagnose specific zoonotic diseases and	Upgrade the lab biosafety level to handle priority zoonotic diseases	No. of Laboratory with upgraded biosafety level	OH-MCM	X	X	X	X	X	X		<b>374,429,532</b>
		Identify and participate in external quality assessment schemes (EQAS) for	No. of tests performed with EQAS	OH-MCM	X	X	X	X	X	X		<b>40,286,355</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
	other public health events	tested zoonotic diseases									
2.7	Strengthen One Health surveillance and reporting of AMR and antimicrobial use	Carry out joint monitoring of AMR	Joint monitoring reports available	OH-MCM	X	X	X	X	X	X	80,429,532
		Improve AMR detection in the human health sector through networking, collaboration and cross sectoral reference laboratory activities	No. of activities jointly done by the animal, human labs	OH-MCM	X	X	X	X	X	X	232,400,987
		Improve laboratory capacity (human, animal and environment sectors) to detect and diagnose AMR pathogens	No. of appropriate equipment installed	OH-MCM		X	X	X	X	X	1,234,500,000
			No. of trainings on lab detection of AMR in food stuffs and water as well as blood	OH-MCM	X	X	X	X	X	X	
2.8	Develop, implement and enforce food safety standards using Mycotoxin as an example.	Carry out a gap analysis of the food safety system.	Gap analysis report available	OH-MCM	X						10,000,000
		Carry out a baseline study on the status of mycotoxin contamination in the food chain	Baseline study report validated	OH-MCM	X						18,100,000

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		Develop or revise regulatory tools on food safety	Up to date regulatory guideline and standards available	OH-MCM	X	X	X	X	X	X	24,050,000
		Strengthen foodborne disease surveillance, including research and scientific capacity of the national food control system.	A strong and vibrant foodborne surveillance systems present	OH-MCM	X	X	X	X	X	X	216,033,333
		Create systems for improving food safety along the entire food chain (registration, inspection, certification, post-market surveillance).	System in place	OH-MCM	X	X	X	X	X	X	24,050,000
<b>Objective 3: Build and develop One Health workforce capacity in order to bridge the knowledge and skills deficits in detection, preventions and response to emerging and re-emerging infectious (plant, animal, human) diseases and other public health threats</b>											
3.1	Train zoonotic disease and other public health threats surveillance personnel	Organize joint TOT on zoonotic diseases and other public health threats surveillance personnel at central level	No. of personnel trained	OH-MCM	X		X		X		36,064,516
		Organize TOT on zoonotic diseases and other public health threats for surveillance	No. of personnel trained	OH-MCM		X		X		X	13,064,516

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		personnel at district level									
		Organize training on zoonotic diseases and other public health threats for surveillance personnel at sector level	No. of personnel trained	OH-MCM		X			X		<b>92,562,445</b>
		Participate in regional and international short courses on zoonotic diseases and other public health threats for surveillance personnel at national level	No. of personnel trained	OH-MCM	X		X			X	<b>92,562,445.16</b>
		Train primary producers, food handlers, food inspectors and analysts on OH perspective	No. of trainings carried out	OH-MCM	X	X	X			X	<b>124,050,000</b>
3.2	Develop and implement a training plan for laboratory personnel in zoonotic disease pathogens	Organize workshops on Laboratory Quality Management System and ISO 15189 Lab Accreditation	Minutes of joint meetings within the network	OH-MCM	X	X	X			X	<b>66,953,021</b>
		Training lab personnel (i.e. Virologists, Microbiologists,	No. of personnel trained per lab specialty	OH-MCM	X	X	X	X	X	X	<b>106,953,021</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		Pathologists, Entomologists/ Parasitologists)									
		Conduct in-service training to improve skills and knowledge of lab staff on zoonotic diseases	No. of personnel trained per in-service training	OH-MCM	X	X	X	X	X	X	<b>60,427,632</b>
		Carry out research into knowledge gaps on the release of resistant microorganisms and antimicrobials into the environment and their spread	Research results available	OH-MCM	X	X	X	X	X	X	<b>123,400,985</b>
3.3	Close knowledge gaps on AMR in the environment and on how to prevent transmission	Explore risk assessment methodologies to evaluate the risks to human and animal health from the presence of antimicrobials in the environment	No. of methods used to evaluate risks	OH-MCM	X						–
		Encourage the development of new tools for monitoring antimicrobials and microorganisms resistant against	No. of new tools developed	OH-MCM	X						<b>5,343,554</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		antimicrobials in the environment;									
3.4	Assess human health vulnerability and public health adaptation to climate change	Conduct an assessment of human health vulnerability to climate change	Report of the assessment	OH-MCM	X						10,000,000
		Establish national electronic database for early warning systems for climate-sensitive health risks	An electronic database is in place	OH-MCM			X				80,477,419
3.5	Integrate OH competencies into relevant academic disciplines and training programs	Develop the OH core competencies across undergraduate, graduate and post graduate stages of education	OH core competencies document developed	OH-MCM	X						10,000,000
		Develop implementation plans for the integration of OH competencies into curricula	Implementation plan developed and OH core competencies integrated into curricula	OH-MCM	X						10,000,000
		Develop learning tools to assist with implementation	Learning tools developed and used	OH-MCM	X	X	X			X	65,565,000
		Conduct interdisciplinary faculty development	Number of workshop conducted	OH-MCM	X						22,918,000

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		workshops to advance OH knowledge and teaching skills									
		Conduct advocacy meeting for Higher learning institutions (e.g. Deans, Heads, Principals)	Meeting minutes available	OH-MCM	X	X	X			X	<b>10,848,000</b>
		Establish an in-service IPC program for health care and animal health settings.	In-service IPC curriculum developed	OH-MCM	X						<b>9,060,000</b>
		Train and continuously assess skills of IPC personnel both in human and animal health	No. of trainings carried out.	OH-MCM	X	X	X	X	X	X	<b>31,250,000</b>
			No. of people trained		X	X	X	X	X	X	
3.6	Promote and develop integrated advanced training opportunities to mentor and develop future leaders in OH education, research and implementation	Update the asset-based need assessment to identify existing training models and resources	Assessment conducted	OH-MCM	X						<b>1,000,000</b>
		Expand and promote existing integrated advanced training opportunities (short and long term FELTP, OH demonstration site, OH field attachment, OH	Number of OH FELTP supported long course trainees	OH-MCM	X	X	X	X	X	X	<b>1,080,000,000</b>
			Number of OH leadership trainings conducted	OH-MCM	X	X	X	X	X	X	



#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		leadership) to mentor and develop future leaders in OH education, research and implementation	Number of short courses OH FELTP conducted,	OH-MCM	X	X	X	X	X	X	
			Number of short OH FELTP train	OH-MCM	X	X	X	X	X	X	
			Number of functional OH demonstration sites,	OH-MCM	X	X	X	X	X	X	
			Number of trainees on OH field attachment,	OH-MCM	X	X	X	X	X	X	
			Number of OH leadership trainings	OH-MCM	X	X	X	X	X	X	
3.7	Establish faculty and trainees exchanges and collaboration across the OHCEA university network and beyond	Establish a "OH community" to link and inform scholars, trainees and implementers on opportunities for exchanges and collaboration	OH community established and functional	OH-MCM	X	X	X	X	X	X	<b>143,749,882</b>
		Create incentives and awards to promote exchanges and collaboration across OHCEA university network and beyond	Number of exchange grants, awards, sponsorship available,	OH-MCM	X	X	X	X	X	X	<b>143,749,882</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
			Number of recipients								
<b>Objective 4: Promote applied research and innovations at the human-animal-environment interface to generate evidence that inform policy, guide interventions, legal and regulatory frameworks.</b>											
4.1	Identify and promote applied research on identified public health threats	Develop and implement applied research agendas to benefit the health of Rwandans	Research agenda developed, Research carried out, and used to inform decision makers and communities	OH-MCM	X	X	X			X	<b>66,749,882</b>
		Design and implement research to address existing or anticipated public health events	Research carried out to address existing or anticipated public health events and results used to inform decision making	OH-MCM	X	X	X			X	<b>782,879,470</b>
		Create incentives to encourage collaborative applied research	Number of research grants, awards, sponsorship available, Number of recipients	OH-MCM	X	X	X			X	<b>62,276,272</b>

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
4.2	Hold national, regional and international workshops, conferences on public health concerns	Jointly organize national annual OH grand rounds	Number of OH grand rounds conducted	OH-MCM	X	X	X	X	X	X	2,419,200
		Attend 1 to 2 international OH conferences a year and provide dissemination feedback to One Health Multi-sectoral Coordination Mechanism and partners	Conferences held/attended	OH-MCM	X	X	X	X	X	X	0
		Advocate for inclusion of OH theme into existing associations, fora and conferences related to human, animal and ecosystem health	Number of associations, fora and conferences with OH theme included	OH-MCM	X	X	X	X	X	X	0
4.3	Promote writing and publication of abstracts and manuscripts on One Health concerns in Rwanda	Support participation in national, regional and international conferences addressing One Health concerns	Number of participants supported to attend national, regional and international conferences	OH-MCM	X	X	X			X	10,000,000
		Organize manuscript/abstract writing workshops	Number of writing workshops conducted	OH-MCM	X	X	X			X	0

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		Provide financial support to subscribe and submit manuscript to peer-review journals	Number of manuscripts published to peer-reviewed journals	OH-MCM	X	X	X			X	0
4.4	Celebrate annual One Health day	Carry out awareness and scientific activities to celebrate the annual One Health day	Event report available	OH-MCM	X	X	X	X	X	X	108,000,000
<b>Objective 5: Strengthen national awareness mechanisms for the general public around zoonotic diseases, vector-borne diseases, plant diseases, AMR and other public health issues.</b>											
5.1	Launch and advocate for OH in Rwanda	Launch and advocate for OH in Rwanda	Endorsed ROHSP Launch Report available	OH-MCM	X						2,120,861
5.2	Develop OH Communication Strategy	Develop OH Communication Strategy	Communication strategy available	OH-MCM	X						-
		Conduct validation workshop for the strategy	Workshop report	OH-MCM		X					2,000,000
5.3	Increase awareness and understanding of AMR	Share evidence-based data on possible links between consumption of antimicrobial agents and the occurrence of antimicrobial resistance in humans and food-producing animals	Publications available	OH-MCM	X	X	X			X	24,232,000

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)	
					2021	2022	2023	2024	2025	2026		
		Carry out surveys to get insights into reported public use of and knowledge about antimicrobials	Survey results available	OH-MCM	X		X					74,009,960
		Make available regular information on the overview of the AMR epidemiological situation in the country	Epidemiological reports on AMR available	OH-MCM	X	X	X				X	-
5.3	Strengthen infection prevention and control measures	Encourage good practices in infection prevention and control in hospital environments	SOPs on infection control available	OH-MCM	X							-
		Promote animal husbandry systems, and feeding regimes which support good animal health and welfare to reduce antimicrobial usage	No. of animal husbandry and feeding regimes put in place	OH-MCM	X							5,433,667
		Under the Food safety & Anti-Microbial Resistance TWG, create a National IPC committee	National IPC committee in place	OH-MCM	X	X	X	X	X	X	X	4,000,000
			Meeting Minutes of the IPC committee		X	X	X	X	X	X		
		Routine auditing of health care settings for	No. of audits made per year	OH-MCM	X	X	X	X	X	X	24,000,000	

#	Activity	Sub-activity	Indicator of progress	Responsible Entity	Timeframe						Budget Total (RWF)
					2021	2022	2023	2024	2025	2026	
		implementation of the IPC SOPs	No. of health care facilities audited per year	OH-MCM	X	X	X	X	X	X	
<b>Objective 6: Ensure that there is a clear, systematic, predictable, sustainable and well-coordinated approach to mobilizing, acquiring, utilization, management, reporting, monitoring and evaluating domestic and external resources.</b>											
6.1	Resources mobilization	Develop a resource mobilization strategy document	Resource mobilization strategy available	OH-MCM	X	X					2,000,000
<b>GRAND TOTAL</b>											<b>12,093,684,160</b>