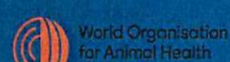
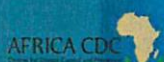


THE REPUBLIC OF SOUTH SUDAN

NATIONAL ACTION PLAN ON ANTIMICROBIAL RESISTANCE

(AMR- NAP)

2023 - 2028



MESSAGE FROM THE MINISTER FOR CABINET AFFAIRS

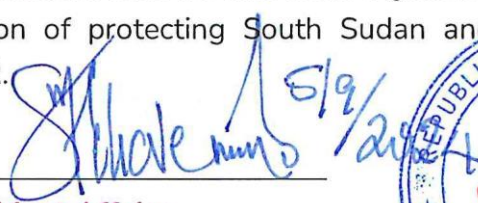
Antimicrobial resistance (AMR) is a serious threat to effective prevention and treatment of infections. As antibiotics and other antimicrobials are becoming ineffective, treatment options are increasingly becoming limited, expensive, or unavailable. Resistance is spreading at an alarming rate, however, of utmost global concern is that there aren't enough antibiotics in development to deal with this threat. The impacts of AMR are evident and cut across global health security, food production, food safety and security, agriculture, global economies, and trade.

AMR does not recognize national borders and spreads across human, animal and environment interfaces. Addressing AMR requires action in a One Health approach, a deliberate collaborative, multisectoral and interdisciplinary joint action from human and animal health, plant, environmental, agriculture, and well-informed consumers. In this regard, the government of South Sudan has developed a One Health National Action Plan on AMR (NAP-AMR) which incorporates five strategic objectives in alignment with the Global Action Plan (GAP):

- 1) Improve awareness and understanding of antimicrobial resistance
- 2) Strengthen knowledge through surveillance and research
- 3) Reduce the incidence of infection
- 4) Optimize the use of antimicrobial agents, and
- 5) Develop an economic case for sustainable investment in countering AMR

The NAP-AMR provides clear strategic priorities and interventions, therefore, the next five years, i.e., 2023 -2028, will be crucial for us to ensure that we are achieving the set milestones to strengthen national AMR response efforts. It also outlines a governance structure that will ensure oversight towards implementation and monitoring of the NAP -AMR and complements existing plans, such as National Action Plan for Health Security (NAPHS) (2020-24), strategies, and programs.

I would like to thank and acknowledge all who have contributed to the process of creating this plan. I urge all relevant stakeholders to dedicate themselves to collaborate for alignment, optimized use of resources and technical capacities to realize this NAP-AMR. We all have a role to play in preserving the effectiveness of antimicrobials. I am confident that we will work together to contain the AMR threat and achieve our vision of protecting South Sudan and her people against the consequences of AMR.


Hon. Minister for Cabinet Affairs



FOREWORD

Antimicrobial Resistance (AMR) is one of the top global health issues. Since their discovery, antimicrobials have been cornerstone to the treatment and therapeutics, and have contributed to reduction of morbidity and mortality. Although AMR is a naturally occurring phenomenon, misuse and indiscriminate use of antimicrobials from human activity has been one of the main drivers of AMR. Emergence and spread of AMR is threatening the advances made in public health, the economy, and progress towards achieving Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs). Addressing AMR requires a One Health approach that underlines joint and coordinated multisectoral and sector specific action across human and animal health, plant and environment sectors and disciplines.

The South Sudan National Action Plan on AMR (2023-2028) was developed under a One Health approach with collaborative efforts from the Ministry of Health, Ministry of Livestock and Fisheries, Ministry of Environment and Forestry, Ministry of Wildlife, Tourism and Conservation, other AMR stakeholders and international partners. A multistakeholder consultative workshop was organized by the national AMR Secretariat to validate a situational analysis on AMR in South Sudan, develop, and cost the NAP. This NAP-AMR will provide an anchored comprehensive framework and guidance of interventions and activities for addressing AMR in the country. It outlines five main strategic objectives in the One Health approach, and in line with the Global Action Plan on AMR (GAP – AMR), taking into account national priorities, resources, and existing plans, strategies, and programs.

This NAP-AMR is a major milestone for the Government of South Sudan. Successful implementation, monitoring and sustainability of its activities will, however, require commitment, coordinated efforts within and across sectors and disciplines, including line Ministries, agencies, Non-Governmental Organizations (NGOs), partners, civil society organizations, academia, and the private sector. We remain committed to provide oversight and stewardship to achieve these outcomes.



ACKNOWLEDGEMENT

The Republic of South Sudan acknowledges the actors from the Line ministries including, the Ministry of Health, Ministry of Livestock and Fisheries, Ministry of Environment and Forestry, Ministry of Wildlife, Conservation and Tourism, other AMR national stakeholders, and international partners for their collaborative work to develop the South Sudan National Action Plan (2023 - 2028), in a One Health approach. I sincerely appreciate the efforts of the AMR Secretariat, under the oversight of the National AMR Focal Person, Abe Lojuan, for its exemplary commitment and coordination of the process.

Sincere gratitude also goes to the Africa Centres for Disease Control, World Health Organization (WHO) South Sudan Country Office and WHO Regional Office for Africa (WHO - AFRO), the Food and Agricultural Organization (FAO), the World Organization for Animal Health (WOAH), African Society for Laboratory Medicine (ASLM) for their technical and financial support.

The following ministries, departments, agencies and relevant national stakeholders, consultants, and international partners are acknowledged for their dedication and commitment from attending the multistakeholder consultative workshops, drafting, reviewing, editing of this South Sudan AMR NAP:

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EXECUTIVE SUMMARY

Antimicrobial Resistance (AMR) is one of the top public health issues and global health security threat. Emergence and spread of AMR has been Linked to the overuse and misuse of antimicrobials in human and animal health, plant growth, and environment contamination. AMR is a concern as common and treatable infections such as diarrhea, are becoming harder to treat. Consequences of AMR span across human, animal, plant and the environment. notwithstanding the risk it poses to global economies, trade and food security and the Sustainable Development Goals (SDGs), with a burden substantially higher in Low-and-middle-income countries. Addressing AMR calls for a multisectoral and multistakeholder concerted effort in a "One Health" approach that recognizes the interlinkages between human, animal, plant and environmental interfaces.

In 2015, at the 68th World Health Assembly, the Global Action Plan on AMR (GAP - AMR) was endorsed by the tripartite i.e., the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO) and the World Organization for Animal Health (WOAH, formerly OIE) as the blueprint for guiding AMR response. The tripartite is now the Quadripartite, following the inclusion of the UN Environment Programme (UNEP) to the efforts. Member States also pledged to develop One Health National Action Plans to combat AMR.

The government of South Sudan recognizes AMR as a key public health and global health security issue. Recommendations from the Joint External Evaluation (JEE) 2017 of the implementation of the International Health Regulation (IHR) 2005, highlighted "no capacity" as it pertains to AMR, hence the need for urgent action and mechanisms to specifically address AMR. In this regard, the South Sudan National Action Plan on AMR (2023-2028) was developed under the coordination of the National AMR Secretariat through consultative workshops and interactive deliberations. The NAP-AMR includes a comprehensive situational analysis from the human, animal, plant and environmental sectors, and elaborated context-specific strategies, intervention and activities, as well as a monitoring and evaluation framework with clear actionable items. National stakeholders were trained on the WHO Costing and Budgeting tool that was then used to cost the prioritized activities. The estimated budget amounts to USD 11,923,921. Development of the South Sudan NAP-AMR also accounts for interventions and recommendations of existing plans and strategies where AMR is cross-cutting.

This NAP-AMR outlines priority interventions and activities across five main strategic objectives : (i) *improve awareness and understanding of antimicrobial resistance*, (ii) *strengthen knowledge through surveillance and research*, (iii) *reduce the incidence of infection* (iv) *optimize the use of antimicrobial agents*, and (v) *develop an economic case for sustainable investment in countering AMR*. These strategic priorities are interlinked and guided by the values of Leaving no one behind.

This is South Sudan's first NAP-AMR and it will provide a reference framework to guide coordinated efforts in the country for a common goal of mitigating the threat posed by AMR in South Sudan, under One Health approach.

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1 INTRODUCTION

1.1. Background

Antimicrobial Resistance (AMR) is one of the top 10 global health threats. It is a phenomenon that occurs naturally when microbes, i.e., bacteria, fungi, parasites, and viruses, that cause infection, evolve to become resistant to medicines that are meant to kill them. As antimicrobials become less effective, infections, even the most common e.g., pneumonia, are becoming harder or impossible to treat; this has major implications including, increased treatment costs, prolonged hospital stays, and complications in the management of diseases. While a natural phenomenon, human practices such as the misuse and indiscriminate use of antimicrobials across the human and animal health, crop production and contamination of the environment, has further exacerbated the emergence and spread of AMR [1].

Globally, recent evidence shows that bacterial AMR was alarmingly responsible for 1.27 million deaths and was associated with 4.95 million deaths in 2019 [2]. This surpasses the number of people who died from HIV/AIDS and malaria globally that year. Moreover, the cumulative cost of AMR is projected to be \$120 trillion by 2050, if no action is taken [3]. Despite this, the challenge of indiscriminate use of antimicrobials co-exists with insufficient access to quality and effective antimicrobials, especially in Low- and middle-income countries. AMR threatens the attainment of some of the key global health and development milestones including Universal Health Coverage (UHC), Sustainable Development Goals (SDGs). The 68th World Health Assembly, adopted the Global Action Plan on AMR as a blueprint for guiding AMR response in a One Health approach. Under the coordination of the Quadripartite agencies i.e., the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO) and the World Organization for Animal Health (WOAH, formerly OIE) and the United Nations Environment Program (UNEP) [4]. The interlinkages between human, animal and environmental health create the pathways for resistant pathogens and genes to spread across these interfaces. Hence, a whole of society, integrated "One Health" approach is reinforced to address AMR.

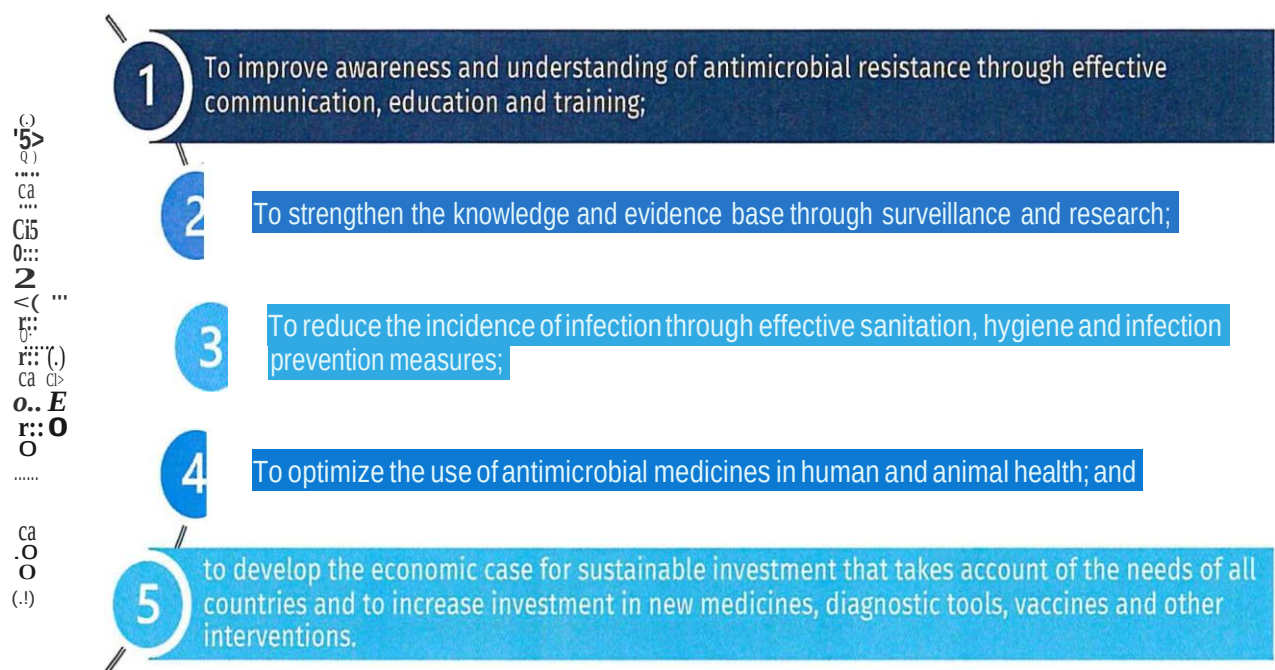


Fig 1. Global Action Plan Strategic Objectives. Adapted from (WHO, 2015)

Limited data exists on the burden of AMR in South Sudan. Available evidence cites the multi-drug resistant and rifampicin-resistant TB (MOR/RR TB) cases [5]. Other studies have also found high Levels of inappropriate antibiotics use in hospitals despite the existence of Local guidelines, absence of prescription Laws, weak regulatory enforcements, and weak capacities for Infection Prevention and Control (IPC) and Water Hygiene and Sanitation (WASH) [6]. The Republic of South Sudan is a signatory to the International Health Regulation (IHR) 2005 . In 2017, a Joint External Evaluation (JEE) of the implementation of the International Health Regulation (2005) for public health events of international concern, including AMR , highlighted "no capacity" for the country to address AMR [7]. The South Sudan then developed its National Action Plan for Health Security (NAPHS) , which also includes interventions to address AMR, following recommendations from the JEE. The NAPHS also paved the way towards informing the NAP - AMR formulation.

Table 1 AMR indicators in the 2017 JEE of IHR core capacities mission report

South Sudan scores

Technical areas	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	2
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with IHR (2005)	1
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant actors in the implementation of IHR	2
Antimicrobial resistance	P.3.1 Antimicrobial resistance detection	1
	P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens	1
	P.3.3 Health care-associated infection (HCAI) prevention and control programmes	1
	P.3.4 Antimicrobial stewardship activities	1

South Sudan developed its National Action Plan on AMR (2023 – 2028) to provide a roadmap for comprehensive multisectoral approaches and specific guidance to strengthen, and complement existing, AMR prevention and containment efforts. The process for NAP development commenced with a comprehensive situational analysis that was validated by the AMR Stakeholders. The strategic, operational, and monitoring and evaluation plans were then developed through a consultative multisectoral workshop and deliberations to describe and prioritize interventions, and activities, across five strategic objectives. The prioritized operational plan was also costed using the WHO Costing and Budgeting Tool for AMR NAPs. Technical guidelines such as the WHO Implementation Handbook for AMR NAPs and the Tripartite Manual for Developing NAPs were also consulted throughout.

The South Sudan NAP - AMR considers existing plans, strategies and national programs being implemented in areas which AMR is cross-cutting. It is grounded on One Health and shall serve as a guiding framework for implementation and monitoring of the activities that will be undertaken collectively to slow down and curb the emergence and spread of AMR in South Sudan.

1.2. Situational analysis

1.2.1. Overview

A situational analysis was conducted to provide context on governance structures, capacities, and existing interventions for addressing AMR, to ensure that the NAP development process is in Line with the country's context, strengths, gaps and resources. A desk review of available peer-reviewed articles, grey Literature, and assessment reports such as the Tracking AMR Country Self-Assessment Survey (TrACSS) was conducted to inform human health situational analysis. For the Livestock and wildlife sector, key informant interviews and review of available Literature were also conducted. A Strengths, Weaknesses, Opportunities, and Threats (SWOT) matrix for AMR in human health, animal, plant, and environmental sectors was developed and validated by AMR Secretariat during the NAP development workshop. The situational analysis can be found **here**.

1.2.2. Country Profile

South Sudan is the youngest country in Africa.¹ It is bordered by Central Africa Republic, Democratic Republic of Congo, Ethiopia, Kenya, Sudan, and Uganda. The population of South Sudan was estimated at 12 million, with a 1.3% annual growth rate and overall Life expectancy at birth at 55 years.² The country also has one of the Largest Livestock populations in Africa, at over 36 million which includes cattle, goats, and sheep. It is estimated that 80% of the South Sudanese population make a Living from Livestock rearing. Livestock accounts for 65% of the agricultural Gross Domestic Product in the country, and the per capita Livestock ownership is one of the highest in Africa.³ Data on wildlife numbers for South Sudan is Limited. However, South Sudan is home to thousands of prized wildlife including endangered pangolins, African elephants, Nubian giraffe, buffalo, white-eared kob, mongalla gazelle, Lion, African wild dog, and several indigenous species. Civil war outbreaks and insecurity, and natural disasters have affected health systems and overall progress in development efforts.



Fig 2. Map of South Sudan and its states⁴

¹The World Bank in South Sudan

² South Sudan World Bank Country Profile

³ FAO South Sudan National Livestock Conference Flier

⁴ South Sudan Map

Communicable diseases remain a major public health problem and are the leading causes of morbidity and mortality in South Sudan. Malaria, diarrhea, and pneumonia constitute about 77% of the total Outpatient department (OPO) diagnoses for children under five. Other causes of morbidity and mortality include maternal deaths; severe acute malnutrition; TB/HIV. Moreover, in South Sudan, the WHO estimates that Non-Communicable Diseases (NCDs) accounted for 27% of all deaths in the country in 2016. The maternal mortality ratio is estimated to be 1150 deaths per 100,000 live births, child mortality rate at 99 per 1,000 live births, and infant mortality rate at 65 per 1,000 live births.⁵ Despite livestock representing the main source of livelihood and national GDP, livestock diseases such as anthrax, blackleg, Rift Valley Fever (RVF) are concerning causes of mortality and morbidity, threatening food insecurity and socioeconomic conditions. The 2017-18 Rift Valley fever outbreak resulted in 2000 cattle, 5 human deaths⁶.

The Government of South Sudan recognizes the linkages between public health and veterinary services in protecting animal health, ensuring food safety and eliminating disease causing pathogens responsible for emerging and re-emerging infectious diseases and is implementing its strategic plan in collaboration with partners.⁷ The country is also institutionalizing mechanisms including the IHR (2005) to safeguard the health and security of its people and as part of cooperation for national and global agenda. Hence, the implementation of the South Sudan NAP - AMR strategic interventions and activities further aligns with these national, regional and global priorities.

⁵ [WHO Country Cooperation Strategy at Glance – South Sudan](#)

⁶ [FAO - Response to Increased Livestock Disease Outbreaks in South Sudan](#)

⁷ [MARF Policy Framework and Strategic Plans 2012-2016](#)

1.2.3. AMR Situation in South Sudan: Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

Table 2: Analysis of the strengths, weaknesses, opportunities and threats on AMR

Strengths	Weaknesses
Governance • Existence of One Health Multisectoral Management Committee • Existing cross-cutting guidelines and strategies across sectors such as the National Action Plan for Health Security (NAPHS 2022-24), the National Environmental Policy 2015 – 2025, policy • Health sector strategic plan 2023-2028 • Essential medicines List 2018 • Standard treatment guidelines 2019 • Wildlife Conservation and protected areas bill 2023 • Wildlife policy 2023 Awareness and education • Demonstrated capacity for training and professional education on AMR in human health. • Existing MLF extension messages and campaigns on several topics in relation to the Livestock disease in social media and news Surveillance, evidence, and labs. • Availability of designated AMR National Public Health Laboratory • Enrolment in WHO GLASS for AMC • Demonstrated capacity for the detection of rifampicin resistance in the National TB program. • Existence of Central Veterinary Diagnostic Laboratory • Surveillance systems for detection and reporting of zoonotic diseases through IDSR and AEDIS • Comprehensive guidelines and reporting forms for zoonotic disease outbreaks • Fully established monitoring, reporting and verification office for greenhouse gasses in place. • Existence of CODEX and relevant focal points for AMR and Veterinary products • Passive AMR assessment conducted annually.	Governance • No government budget allocation to support AMR activities implementation in the different Line ministries • No AMR policy • No AMR act • Weak coordination and stakeholder engagement on AMR activities Awareness and education • Dissemination and implementation of policies is Lacking • Lack of awareness on AMR among the general population. • Inadequate awareness among target stakeholders such as human healthcare workers, Livestock, and value chain actors • Limited capacity on the training and professional education on AMR in human health, the veterinary, wildlife, agriculture (plant), food production, food safety and the environment sectors. • Lack of evidence available on AMR and Lack knowledge, attitude, and practices (KAP) studies Surveillance, evidence, and labs. • Lack of standardized and integrated One Health AMR surveillance capacity and utilization of evidence generated for decision-making across sectors • Inadequate Laboratory infrastructure and capacities for microbiology, antibiotic susceptibility testing, and antimicrobial residue testing • No satellite Veterinary Laboratories at subnational Levels • No Legal frameworks for surveillance of Genetically Modified Organisms (GMOs), including Lack of equipment for testing, and

Infection prevention and control

- Infection Prevention and Control Strategy (2022-26)
- Strong government commitment towards improving coverage and ensuring access to vaccines .

Optimized use of antimicrobials

- " Demonstrated capacity on the availability of regulations on prescription and sale of antimicrobials, for human use as reported in the Tracking Country Self-Assessment Survey.

mechanisms to monitor GMOs at border entry points

- No AMR Unit within the Central Veterinary Diagnostic Laboratory (CVDL) and inadequate human resources
- Limited capacity for the Bacteriology and External Quality Assurance program (EQAP)
- Inadequate resources and infrastructure both at national and sub-national Level to support an effective Laboratory system for one health pandemic preparedness, prevention, and response.

Infection prevention and control

- Limited capacity for infection prevention and control i.e., Limited funding, no unified IPC training curriculum.
- Lack of good manufacturing and improper hygiene practices to reduce the development and transmission of AMR in food processing.
- Low vaccination coverage in human and animal health
- Absence of healthcare associated infections (HAIs) surveillance sites
- Weak biosafety and biosecurity capacity
- Inadequate waste treatment facilities (both Liquid and Solid)
- Lack of good manufacturing and hygiene practices to reduce the development and transmission of AMR in food processing

Optimized use of antimicrobials

- No Legislation, regulation and Legal frameworks on the sale and use of antimicrobials in for human and animal health (terrestrial and aquatic), as well as environmental regulations and protection standards
- Inadequate routine data collection for antimicrobial use or antimicrobial consumption in human and animal health, terrestrial, aquatic and agriculture.
- Lack of Antimicrobial Stewardship program policy and plans for optimizing antimicrobial use in healthcare and veterinary settings, as well as use of antimicrobial pesticide such as

bactericides and fungicides use in plant production

- Lack of monitoring antimicrobial use and consumption , and water quality testing for antimicrobial compounds
- Inadequate representation of animal health, agriculture sectors in Drug and Food Control Agency
- Fragmented supply chain systems for drugs, pesticide, pharmaceuticals

Building an economic case for AMR

- Limited research on AMR across sectors
- Lack of research on the economic impact of AMR

Opportunities

- Commitment of international partners including WHO, FAO, OIE, Africa CDC, Green Climate Fund under the Global Environmental Facility (GEF 8.)
- Opportunity for formalization and operationalization of AMR governance structure
- Pandemic fund under the Joint External Examination proposal is ongoing.
- Existence of CODEX with focal points from different sectors.
- Strong commitment from the government , and partners such as the FAO to improve Livestock vaccination coverage .
- NGOs and private sector can be engaged in the awareness campaign on AMR
- South Sudan engagement in regional and international AMR workshops and meetings.
- Agriculture and Livestock extension policy

Threats

- Emerging and re-emerging public health threats
- Availability of antimicrobials over the counter and for prophylactic use
- Inadequate human and financial resources for AMR activities
- Low predictability of foreign funds
- Borderless transmission of resistant pathogens
- Unstable economic growth.
- Donor fatigue
- Political instability and inter-communal conflicts
- Inadequate number of new antimicrobials in the research and development pipeline
- Suboptimal biosecurity at borders and entry points

KEY INTERVENTIONS

- Develop AMR NAP with prioritized, costed, and have an operational plan with monitoring in place, for successful implementation.
- Build Leadership capacity to ensure the effective functioning of AMR multisectoral coordination structures.
- Organize AMR multisectoral coordination mechanism with dedicated Leadership, clear terms of reference, technical working groups, and adequate funding.
- The NAP development should emphasize the importance of conducting routine studies on professionals i.e., healthcare workers, Livestock and value chain actors, and the general public's knowledge, attitudes, beliefs, and perceptions of AMR.
- There is a need to increase public awareness campaigns on the consequences of AMR using different communication platforms and technologies including World AMR awareness Week (WAAW).
- Systematically incorporating AMR into training curricula (both pre-service and in-service) of healthcare workers, veterinarians and veterinary paraprofessionals.
- Capacity building for staff working in Laboratories, surveillance, AMS, and IPC across human health and animal health facilities.
- Improved water, sanitation, and hygiene (WASH) in healthcare facilities, veterinary centers, slaughterhouses, and in the community.
- Strengthening vaccination campaigns and herd health programs.
- Strengthen microbiological Laboratories with the capacity for diagnostic stewardship, culture and susceptibility testing, and antimicrobial residue testing.
- An effort should be made to implement a One Health surveillance system.
- Establishing a robust national monitoring system for antimicrobial use/consumption.
- Strengthen the supply chain management system to assure the availability of quality antimicrobials.
- Develop legislation on prescription and sale of antimicrobials.
- Implement Antimicrobial Stewardship program in health facilities to promote prudent use of antimicrobials.
- Knowledge, attitude, and perception studies should be conducted to assess the drivers of inappropriate antimicrobial use among the general public, healthcare workers.
- Conduct research on the burden and risk of AMR and antimicrobial use in order to identify barriers and drivers for prudent AMU practices.
- Strengthen collaboration with international academics, universities, research institutes, and experts for knowledge sharing, capacity building, research, and other initiatives.

124 South Sudan AMR Stakeholders mapping and analysis

Table 3: Stakeholders mapping and analysis for AMR prevention and containment

SECTOR	STAKEHOLDERS	AREA OF ENGAGEMENT	LEVEL OF ENGAGEMENT	LEVEL OF INFLUENCE
MINISTRY OF CABINET AFFAIRS	One Health Partners	All AMR NAP Objectives	High	High
HUMAN HEALTH	- Office of the Vice President (Service Cluster) - Ministry of Cabinet Affairs - Ministry of Health - State MOH - Doctors Union - Nurses and Midwifery Association - Laboratory Specialists Union - Drugs and Food Control Authority - Ministry of Interior - National Bureau of Standards	All AMR NAP Objectives	High	High
LIVESTOCK AND FISHERIES	- Ministry of Livestock and Fisheries - Marial Lou livestock training center - Pastoralists union - Herders - Butchers' union - Private sector (pharmacist) - SMARFT (state ministries of animal resources, Fisheries and tourism) - SSVA (South Sudan Veterinary Association)	All AMR NAP Objectives	High	High
AGRICULTURE	- Ministry Of Agriculture and Food Security - Farmers Union	All AMR NAP Objectives	High	High



WILDLIFE	• Agricultural Inputs Providers • Ministry of Wildlife Conservation and Tourism • South Sudan Wildlife Society	ALL AMR NAP Objectives		
ENVIRONMENT	• Ministry of Environment and Forestry		High	High
	• State Ministry of Agriculture, Environment, and forestry • City/municipal council (Sanitation and Environment Department) • County/ Payams Environmental Departments	AllAMR NAP Objectives		
UN AGENCIES / DEVELOPMENT PARTNERS	• WHO (World Health Organization) • FAO (Food and Agricultural Organization) • WOAHA (World Organization for Animal Health) • UNICEF (United Nations Children's Fund) • AFRICA-CDC • GEF • UNDP • US-CDC • USAID • UNEP • MSF Family • WORLD BANK • GLOBAL FUND • IOM	AllAMR NAP Objectives	High	High



RESEARCH
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- ASLM
- ICAP
- AMREF Health Africa
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- AAA
- MALARIA CONSORTIUM
- Maltese international
- Tearfund
- VSF family
- WORLD VISION
- CARE INTERNATIONAL
- SSRC
- DRC
- AAH
 - African Parks
 - Flora and Fauna international (FFI)
 - Nature conservation organization (SSNCO)
 - South Sudan wildlife conservation organization (SWCO)
 - Zoological society of London
- HEALTH POOLED FUND (HPF)
- Ministry of Higher Education,
- Public Health Institute
- Juba City Council
- Drug And Food Control Authority (DFCA)
- South Sudan General Medical Council
- National Bureau of Standards

ALL AMR NAP
Objectives

Optimal use of AMs

Low	High
Low	Low
High	High
High	High



	- Ministry of Interior - Ministry of Justice and Constitutional Affairs - National Security - Ministry of Defense and Veteran Affairs		Low	High
REGIONAL ECONOMIC COMMUNITIES	- EAST AFRICAN COMMUNITY (EAC) - IGAD	ALL AMR NAP Objectives	Low	High
CIVIL SOCIETY	- Religious Leaders - Community Based Organizations - National BaseNet organization - NNGOs	A wareness	Medium	High
MEDIA	- Ministry of Information, communication, Technology and Postal Services - Media Houses, such as, not Limited to: - SSBC (TV & Radio) - EBC - Miraya Radio - Advance Youth Radio - Classic FM (Radio one) - Bakhita Radio - Eye Radio - Capital Fm - Newspaper outlets	Awareness	High	High
MINISTRY OF FINANCE AND PLANNING	- Ministry of Finance and Planning - National Revenue Authority - State ministry of Finance - State revenue Authority	Sustainability/ Investment	Low	High
MINISTRY OF Water Resource and IRRIGATION	- Ministry of Water Resources and Irrigation - South Sudan water corporation		High	High

2. STRATEGIC FRAMEWORKS FOR THE SOUTH SUDAN NATIONAL ACTION PLAN

2.1. Vision

To ensure effective protection of human, animal, plant, and environment from the consequences of antimicrobial resistance in South Sudan.

2.2. Mission

To reduce and control the emergence and spread of resistant microorganisms while ensuring the availability of safe, effective, and quality-assured antimicrobials and their prudent/rational use and disposal through a One Health approach.

2.3. Goal and AMR NAP Strategic Objectives

2.3.1. Goal

To ensure continuity of successful prevention and treatment of infectious diseases with safe, effective, and quality assured antimicrobial medicines.

2.3.2. . AMR NAP Strategic Objectives

The South Sudan AMR NAP outlines five strategic objectives, with corresponding interventions and activities, which will be implemented in Line with the GAP-AMR.



Fig 3. Strategic Objectives for South Sudan AMR National Action Plan 2023 – 2028

2.4. Guiding principles

The South Sudan AMR NAP shall reflect five guiding principles which serve as the foundation under which the GAP AMR strategic objectives are enunciated, and, subsequently, national action plans will be based on:



Fig 4. Guiding Principles for the implementation of the AMR NAP

3. GOVERNANCE AND COORDINATION

Established and functional national multisectoral coordination mechanisms are pivotal for effective and sustainable implementation of the NAP-AMR. South Sudan has an approved One Health governance structure with terms of reference, under which seven (7) pillars are established, including AMR. It is chaired by the Office of Cabinet Affairs Minister. To ensure integrated and coordinated action, the proposed AMR governance is hence elaborated from this existing structure. The National AMR Multisectoral Committee shall provide oversight and advice on all strategic objectives of the AMR NAP implementation. A national AMR Secretariat was established to coordinate and steer the NAP development process; Led by the National AMR Focal Person, the committee shall ensure continued multisectoral collaboration and coordination. Six technical working groups shall be established to operationalize implementation, provide technical input, monitoring and reporting of their specified technical areas. The AMR Secretariat shall therein, coordinate, synthesize reports and Liaise between the TWG and National AMR Multisectoral Committee.

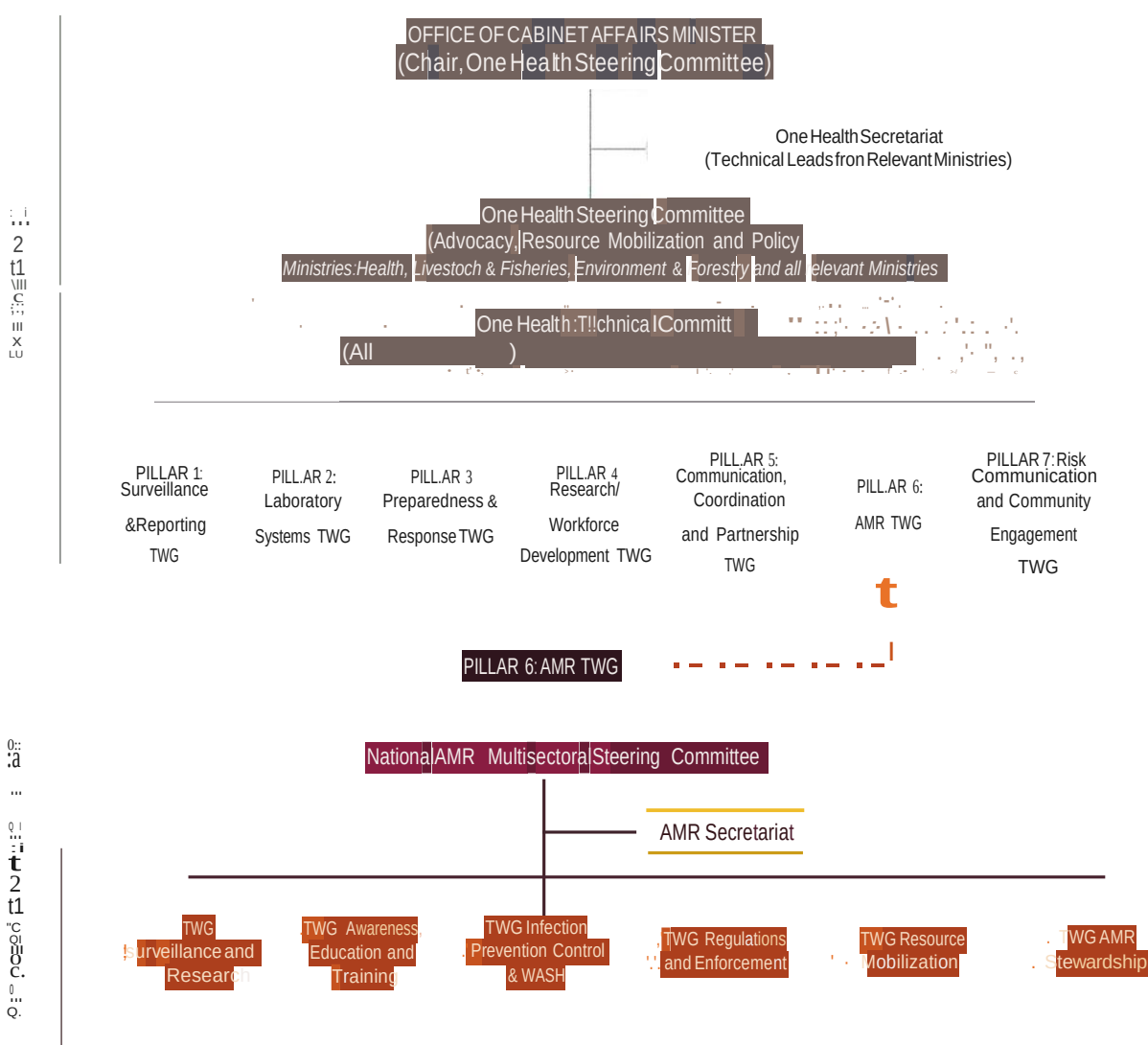


Fig 5. South Sudan AMR Governance Structure

4. STRATEGIC PLAN

Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training.

The main objective of this intervention is to improve awareness of AMR across targeted key stakeholders and actors in the human health, animal health, plant, and environmental health so as to promote behavior change. While AMR is recognized as a public health issue in South Sudan, there are limited AMR awareness campaigns in the country and hence, a need for nation-wide, government supported awareness raising activities with targeted messaging for stakeholders. Addressing AMR calls for stakeholders in South Sudan to understand the burden and threat posed by AMR, as well as each stakeholder's role in appropriate antimicrobial use to minimize the risk posed by AMR. While the Ministry of Livestock and Fisheries in collaboration with partners mounted several extension messages and campaigns, on topics to livestock disease and wellbeing of Livestock, through national broadcasting corporation, FM radio stations and posters etc., none of the messages had specifically addressed AMU or strict compliance with antimicrobials withdrawal periods, rational antimicrobial use, and antimicrobial residues in food. Due to the complex nature of AMR and interlinkages between sectors, communication messages ought to be context-specific and targeted to the respective audiences. This can be achieved through evidence-based public communication, awareness raising campaigns, social engagement, among others. Moreover, as outlined in the GAP-AMR, making AMR a core component of training, continuous professional development, and certification is also essential for ensuring proper awareness among professionals across the sectors. The following priority interventions and activities are proposed:

Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training.

Strategic interventions

Activities

- | | |
|--|---|
| <p>11 Improve awareness and understanding of AMR in the various groups of the general population.</p> | <p>11.1 Conduct baseline survey to assess knowledge, attitudes and behavioral practice about AMU and AMR among professionals and community in human health, animal health, agriculture, and the environment to guide training and education.</p> <p>11.2 Develop and disseminate a comprehensive evidence-based national communication strategy for AMR.</p> <p>11.3 Develop and disseminate IEC materials in the Local context and Language for diverse stakeholders in human, animal, and environmental health sectors .</p> <p>11.4 Conduct regular antimicrobial resistance awareness campaigns including World Antimicrobial Awareness Week (WAAW)</p> |
| <p>12 Strengthen education and training on antimicrobial resistance of human, animal, plant, and environmental health professionals.</p> | <p>1.2.1 Advocate the incorporation of antimicrobial resistance courses in undergraduate and graduate curriculum for relevant stakeholders .</p> <p>1.2.2 Incorporate AMR and related topics in undergraduate and graduate curriculum of human, animal, and environment professionals.</p> <p>1.2.3 Conduct in-service training programs on AMR for human, animal, environmental professionals</p> |
| <p>13 Enhance engagement of media, civil society organizations, youth groups and opinion Leaders on antimicrobial resistance prevention and control</p> | <p>13.1 Provide trainings on antimicrobial resistance for media professionals for the dissemination of AMR key messages to the public.</p> <p>1.3.2 Conduct advocacy workshops on antimicrobial resistance for civil society organizations, youth groups and opinion Leaders</p> |
| <p>14 Strengthen antimicrobial resistance advocacy and communication with policymakers</p> | <p>1.4.1 Conduct advocacy workshops on antimicrobial resistance for policy makers across the human, animal, and environmental sector</p> |



Strategic Objective 2: Strengthen the knowledge and evidence-based interventions through surveillance and research.

Surveillance of AMR , antimicrobial use, antimicrobial residues is essential in generating the needed evidence based, data and knowledge that will be translated into policy, practice and decision making to combat AMR. This objective aims to develop and strengthen capacities for standardized surveillance and monitoring of emergence, patterns, spread of resistance, prevalence of AMs in the environment/ecosystems as well as providing early warnings across humans, animals, plants and the environment. Several efforts have been implemented in South Sudan, including Integrated Disease Surveillance and Response (IDSR) strategy and existing Laboratory structures in the main reference Laboratory i.e., the National Public Health Laboratory, teaching hospitals, state hospitals, county, primary healthcare centers. There is also one functional Central Veterinary Diagnostic Laboratory in the capital city Juba. However, capacities for generating data through surveillance systems, conducting microbiology and antimicrobial susceptibility testing are limited. Laboratory-based AMR surveillance and diagnostics , with quality assurance and uninterrupted supply of consumables is also critical for generating quality data. The following priority interventions and activities are proposed:

Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research.

Strategic interventions

2.1 Strengthen Laboratories capacity to detect and report antimicrobial resistance at all sectors.

2.2 Strengthen quality management systems to provide consistent diagnostic standards by all Laboratories.

2.3 Establish integrated antimicrobial resistance surveillance system that allows data sharing from human, water, environment, animal and agricultural sectors.

2.4 Support Surveillance for Antimicrobial Drug Residues in Food and Environment

Activities

2.1.1 Assess the capacity of existing Laboratories with respect to AMR.

2.1.2 Develop a national guideline and SOP for AMR surveillance system

2.1.3 Capacitate Laboratory professionals on detection and reporting of AMR

2.1.4 Establish antimicrobial resistance active surveillance system in human and animal sector

2.1.5 Procure modern and automated diagnostic equipment and supplies required for AMR detection

2.2.1 Establish Quality Management System (QMS) for AMR surveillance in the different sectors.

2.2.2 Develop standards operating procedures (SOPs) for Laboratory surveillance of AMR in humans and animals, food, agriculture, and environment consistent and harmonized with international standards.

2.2.3 Establish an internal and external quality assurance system for AMR surveillance.

2.3.1 1 Develop national guidelines and plan for an integrated surveillance systems on AMR

2.3.2 Establish a harmonized database and information sharing system on AMR in human, animal, plant, and environmental health.

2.3.3 Establish a joint reporting mechanism on AMR in human, animal, agriculture, and the environmental sectors

2.3.4 Enroll in GLASS AMR and strengthen regular reporting

2.4.1 Strengthen Laboratory capacity to carry out antimicrobial residue testing for food and feed products.

2.5 Strengthen research capacity on AMR in human, animal, agriculture, and environmental health.

- 2.4.2 Establish surveillance and research of antimicrobial residues, effluent and waste in the environment, agriculture, food and feed sectors
- 2.5.1 1 Develop an integrated and prioritized research agenda for AMR across all sectors.
- 2.5.2 Capacitate professionals on basic and operational research in antimicrobial use and resistance.
- 2.5.3 Conduct research AMR/AMU across the sectors to understand the drivers for AMR/AMU and use for policy formulation.
- 2.5.4 Establish platform (conference or symposium) for regular information sharing on antimicrobial resistance research.

Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.

Infection prevention and control goes hand in hand with adequate water supply, hygiene practices, and sanitation to limit the spread of infections at human health and animal health facility, and community levels. South Sudan has an existing IPC strategy, Standard Operating Procedures and guidelines as part of the efforts to strengthen national IPC programs. There is still a need to ensure that the IPC programs and guidelines for minimum standards are disseminated, implemented, adhered to, and monitored at national and facility levels. This AMR NAP also cites interventions and activities for waste management systems, personal hygiene, and biosecurity. The Ministry of Health alongside the Ministry of Livestock are imploring vaccination as an infection prevention measure that reduces the risk of AMR spreading and developing from the reduced use of antimicrobials in humans and animals. Moreover, the Environment sector is implementing phytosanitary measures to prevent infections in plant. These efforts ought to be scaled up, especially in vulnerable communities. Scaling up of water, sanitation, and hygiene (WASH) measures in healthcare and animal facilities and routine immunization efforts is also critical. The following priority interventions and activities are proposed:

Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.	
Strategic interventions	Activities
3.1 Strengthen infection prevention and Control (IPC) program in health care settings.	3.1.1 Conduct advocacy and sensitization on national IPC policy and Strategic Plan for relevant stakeholders. 3.1.2 Strengthen the availability of IPC related equipment, PPE, supplies, utilities (water supply) and guidelines. 3.1.3 Develop, and disseminate IPC training manuals, SOPs and IEC materials to healthcare professionals. 3.1.4 Conduct sensitization campaigns to promote personal and phytosanitary hygiene.



- 3.2 Prevent and monitor health care-associated infections at human and veterinary health facilities
 - 3.2.1 Conduct health care-associated infections survey at the health facilities
 - 3.2.2 Implement health care-associated infection prevention measures
- 3.3 Accelerate Vaccination Campaigns to enhance prevention and control of diseases and infections in human and animal health
 - 3.3.1 Conduct Vaccination Campaign for various health threats
 - 3.3.2 Capacitate Professionals on prevention and control of diseases in human and animal
- 3.4 Strengthen waste management systems in the health, agriculture, and environment sectors and communities.
 - 3.4.1 Develop a comprehensive guideline of waste management system across the sectors.
 - 3.4.2 Conduct regular health promotion activities to advocate personal hygiene and environmental sanitation.
 - 3.4.3 Promote and enforce hazardous waste management in health facilities.
- 3.5 5 Strengthen water, sanitation, and hygiene (WASH) services
 - 3.5.1 Support and enforce human and animal health facilities to provide functional handwashing and bathing facility for staff and patients.
 - 3.5.2 Support facilities to prepare and dispense alcohol-based hand sanitizer
- 3.6 Strengthen good husbandry practices and bio-security interventions in animal husbandry, plant, and fishery sectors.
 - 3.6.1 Conduct assessment of knowledge, attitudes, behavior, and practices on good husbandry practice.
 - 3.6.2 Develop guidelines on good bio-security measures in animal husbandry, plant, and fishery sectors.
 - 3.6.3 Train human and animal health workers on the biosecurity guidelines.
 - 3.6.4 Develop bio-risk guidelines for animal feed processing and poultry, dairy and beef production, food handlers and traders.

Strategic Objective 4: Optimize the use of antimicrobial agents in humans, animals, and plant health.

Among the drivers of AMR is the misuse and indiscriminate use of antimicrobials across sectors, nonetheless Limited access to essential antimicrobials, especially in Low- and middle-income countries with high burden of infectious diseases, is a conundrum . Policies and strategies that ensure equitable and sustainable access to essential health products, including essential medicines and related health technologies, is a critical contribution to the promotion of access to health in general and the efforts towards Universal Health Coverage (UHC). Rational use of antimicrobials, with optimal prescribing and consumer practices cannot be understated for preserving effectiveness of antimicrobials. South Sudan has several initiatives such as the Pharmaceutical Policy, revised national Standard Treatment Guidelines and Essential Medicines List (EML) , and the Drug and Food Control Authority etc., to promote optimized drug use. However, there is a gap in enforcement of Legislation to ensure prudent use. A national policy or plan on antimicrobial stewardship should be developed and implemented through AMS interventions across all Levels. This AMR NAP also highlights enforcement of regulations in the distribution and sale of antimicrobials for humans, animals and plants as a priority intervention for anchoring AMS activities in South Sudan. Lastly, streamlined reporting and use of data on antimicrobial use and consumption is key to inform practitioners and decision makers across human health, animal health and plant & ecosystem health sectors. The following priority interventions and activities are proposed:

Strategic Objective 4: Optimize the use of antimicrobial agents in human, animal, and plant health.

Strategic interventions

4.1 Establish antimicrobial stewardship program for selected facilities

4.2 Ensure optimal prescribing, dispensing and use of antimicrobials in human

Activities

4.1.1 Develop and disseminate antimicrobial stewardship policy.

4.1.2 Institutionalize antimicrobial stewardship in healthcare facilities.

4.1.3 Provide training on antimicrobial stewardship program.

4.1.4 Conduct point prevalence survey on antibiotic use in Hospitals.

4.2.1 Facilitate continued education and training to promote responsible prescribing and dispensing practices.

4.2.2 Review and disseminate STGs/EML based on antimicrobial resistance data and incorporate AWaRe classification of antibiotics.



4.3 Strengthen antimicrobial use and consumption surveillance in human, animal and plants

4.4 Prudent Use of Antimicrobials in Agriculture and Veterinary Medicine

4.5.5 Develop and enforce Legislation on prescriptions for combating AMR in human, animal and plant

4.6 Ensure an effective supply chain management of quality essential antimicrobials and Laboratory supplies

4.2.3 Develop Antimicrobial prescribing and dispensing manuals.

4.2.4 Strengthen supervision of prescribing and dispensing outlets.

4.3.1 Conduct antimicrobial use and consumption surveillance at the national Level and contribute data at global Level.

4.4.1 Develop and disseminate prescription guidelines, veterinary standard treatment guidelines and formulary for improving appropriate use of antimicrobials in agriculture and veterinary medicine.

4.4.2 Restrict use of antimicrobials as growth promoters or as feed additives.

4.4.3 3 Develop antimicrobial stewardship guidelines for animal health facilities.

4.4.4 Implement antimicrobial stewardship in selected animal health facilities.

4.5.1 Conduct a situational analysis of the existing regulations/Legislations and their enforcement on antimicrobial use.

4.5.2 Develop Legislation/regulation on prescription and sale of antimicrobials for human, animal and plant use.

4.5.3 3 Conduct supervision of pharmacies and ensure adherence to good pharmacy practices .

4.6.1 Advocate inclusion of priority antimicrobials and Laboratory supplies in the Long-term procurement agreement with government/non-government suppliers.

Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions.

Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the national needs and increase investment in new medicines, diagnostic tools, vaccines and other interventions.

Strategic interventions	Activities
5.1 Strengthen the governance and multisectoral coordination for sustainable implementation of AMR NAP.	5.1.1 Establish and strengthen multisectoral AMR Technical Working Group (AMR-TWG) and Sub-Technical Working Groups at national Level. 5.1.2 Establish and strengthen AMR secretariat at the national Level (human resources, materials, finances, structures, etc.) 5.1.3 Establish focal points for human, animal, plant, water, sanitation, hygiene, waste and wastewater management at different Levels. 5.1.4 Organize annual joint review meetings on the implementation of the AMR NAP operational plan
5.2 Ensure availability of sustainable resources to support AMR interventions	5.2.1 Develop resource mobilization strategies to support AMR interventions. 5.2.2 Identify and engage Local and international funding agencies to support AMR interventions.
5.3 Determine the economic impact of AMR in South Sudan	5.3.1 Conduct economic evaluation to determine expenditures for treatment of infectious disease in the country.
5.4 Promote public-private partnerships on antimicrobial resistance prevention and containment	5.4.1 Develop public-private partnership framework on antimicrobial resistance . 5.4.2 Conduct regular advocacy platforms to engage the private sector on antimicrobial resistance.
5.5 Promote Innovation in the Search for Alternative Treatments and Drug Development	5.5.1 Support academia and other researchers in product development including application of traditional and indigenous knowledge. 5.5.2 Advocate for Multi-sectoral collaboration for research on alternative medicines in various aspects of antimicrobial use and resistance in humans, animals, and plants.

5. OPERATIONAL PLAN

Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training.

Strategic intervention 1: Improve awareness and understanding of AMR in the various groups of the general population

Sub-activity	Unit	Quantity	Indicator	Responsible entity	Timelines in years					Implementation level	Cost
					YR1	YR2	YR3	YR4	YRS		
Activity 1.1.1: Conduct baseline survey to assess knowledge, attitudes and behavioral practice about AMU and AMR among professionals and community in human health, animal health, agriculture, and the environment to guide training and education.											
111.1 Conduct AMR and antimicrobial use KAP survey among the general public.	Survey	2	Reports and publications	MoH/MoLF/MoEF/MWC&T/MoA&FS, Academia, AMR secretariate (coordination)	X					X	National
111.2 Conduct a meeting to disseminate KAP study findings	Workshop	2	Workshop minutes and proceedings	MoH/MoLF/MoEF/MWC&T/MoA&FS, Academia, AMR secretariate (coordination)	X					X	National
Activity 1.1.2: Develop and disseminate a comprehensive evidence-based communication strategy for AMR											
112.1 Develop a communication strategy for AMR.	Strategy document	1	Availability of National	MoH/MoLF/MoEF/MWC&T/M		X					National

			Communication Strategy for AMR	oA&FS, MITB&PS/ MW&IR - AMR -secretariat								
1.1.2.1	Conduct a workshop to disseminate the communication strategy	Workshop	1	Workshop minutes and proceedings	MoH/MoLF/Mo EF/MWC&T/M oA&FS, AMR secretariat	X					National and subnational	
Activity 1.1.3 Develop and disseminate IEC materials in the Local context and Language for diverse stakeholders in human, animal, and environmental health sectors												
1.1.3.1	Adopt/develop IEC materials to the South Sudan context and Language	Flyers Posters Brochures	45,000 4000 30,000	Number of promotional materials developed by type	MoH/MoLF/Mo EF/MWC&T/M oA&FS /MITB&PS- AMR secretariat	X					National and subnational	
1.1.3.2	Disseminate IEC materials for AMR stakeholders including the community	Dissemination events	4	Number of dissemination events	MoH/MoLF/Mo EF/MWC&T/M oA&FS/MITB& PS AMR secretariat	X	X					National and subnational
Activity 1.1.4 Conduct regular antimicrobial resistance awareness campaigns including World Antimicrobial Awareness Week (WAAW)												
1.1.4.1	Conduct continuous awareness raising campaigns in the general public on AMR and AMU.	Awareness raising events	5	Number of events conducted	MoH/MoLF/Mo EF/MWC&T/M oA&FS/MITB& PS AMR secretariat	X	X	X	X	X	National and subnational	
1.1.4.1	Commemorate the World antimicrobial awareness week (WAAW)	Commemoration event	5	Number of commemoration events	MoH/MoLF/Mo EF/MWC&T/M oA&FS/MITB&PS AMR secretariat	X	X	X	X	X	National and subnational	

Strategic intervention 12: Strengthen education and training on antimicrobial resistance of human, animal, plant, and environmental health professionals

Activity 1.2.1 Advocate the incorporation of antimicrobial resistance courses in undergraduate and graduate curriculum for relevant stakeholders

1.2.1.1 Advocate for the integration of AMR and related topics in formal and informal education at all levels	Advocacy workshop	2	Number of meetings conducted	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, AMR secretariat	X	X	National & Sub national
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Activity 1.2.2 Incorporate AMR and related topics in undergraduate and graduate curriculum of human, animal, and environment professionals

1.2.2.1 Review and update curricula to include AMR in all curricula for Human, Animal, Plant and environmental in undergraduate and graduate courses	Curriculum document	4	Revised curriculum	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X	X	National Sub national
1.2.2.2 Train focal persons and relevant educational partners at different Levels and sectors of the education system.	Training	4	Number of trainings provided	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat		X X	National & Sub national
1.2.2.3 Develop and disseminate teaching materials	Teaching material	1	Number of Teaching material	One Health, Public health institute and universities - AMR secretariat	X	x	National and subnational

Activity 1.2.3 Conduct in-service training programs on AMR for human, animal, environmental professionals

1.2.3.1 Engage professional registration bodies for inclusion of AMR as part of Continuous professional Education (CPE)	Advocacy workshop	2	Number of Professional bodies engaged	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X						National
1.2.3.2 Develop AMR training manual for CPE	Training manual	1	Approved training manual	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X						National
1.2.3.3 Conduct training and disseminate materials for human, animal, environment professionals.	Training	4	Number of trainings conducted	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat		X	X				National and Subnational

Intervention 1.3 Enhance engagement of media, civil society organizations, youth groups and opinion leaders on antimicrobial resistance prevention and control

Activity 13.1 Provide trainings on antimicrobial resistance for media professionals for the dissemination of AMR key messages to the public

1.3.1.1 Provide trainings on antimicrobial resistance for media professionals (print and electronic) for effective reporting mechanism	Training	5	Number of media training	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X	X	X	X	X		National & Subnational
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1.3.1.2 Distribute communication materials and tools to media outlets.	Print materials and tools	2000	Number of materials and tools printed and distributed	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X	X		National & Sub national
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Activity 1.3.2 Conduct advocacy workshops on antimicrobial resistance for civil society organizations, youth groups and opinion Leaders

1.3.2.1 Conduct advocacy workshops on antimicrobial resistance for civil society groups including opinion Leaders and youth groups	Advocacy Workshop	3	Number of advocacy workshops	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X	X	X	National & Sub national
1.3.2.2 Distribute communication materials and tools to CSO, youth groups, and opinion Leaders	Printed materials & Tools	10000	Number of materials and tools distributed	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat		X	X	National & Sub national

Intervention 14 Strengthen antimicrobial resistance advocacy and communication with policymakers

Activity 14.1 Conduct advocacy workshops on antimicrobial resistance for policy makers across the human, animal, and environmental sector

14.1.1 Organize advocacy workshops for relevant South Sudan Legislative house committees on AMR	Advocacy Workshop	3	Number of advocacy workshops	MoH/MoLF/MoEF/MWC&T/MoA&FS/MITB&PS, MoHE, /Partners AMR secretariat	X	X	X	National & Sub national
14.1.2 Regularly develop and communicate a policy briefing on AMR findings in South Sudan	Policy brief		Number of policy briefs disseminated	AMR TWG AMR secretariat	X	X	X	National & Sub national

Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research

Strategic intervention 2.1: Strengthen laboratories capacity to detect and report antimicrobial resistance at all sectors.

Sub-activity	Unit	Quantity	Indicator	Responsible entity	Timelines in years					Implementation level	Cost
					YRI	YR2	YR3	YR4	YRS		
Activity 2.1.1 Assess the capacity of existing Laboratories with respect to AMR.											
2.1.1.1 Identify a technical expert from various sectors for the assessment.	TWG	1	TWG with defined TOR	ONE HEALTH SC/AMR TWG AMR Secretariat	X						National
2.1.1.2 Conduct comprehensive assessment of the existing various Laboratories in all relevant sectors	Assessment	1	Assessment report with recommendation	ONE HEALTH SC/AMR TWG AMR Secretariat	X						National and Sub-national
2.1.1.3 Communicate assessment findings with all relevant sectors.	Workshop	1	Workshop proceedings	ONE HEALTH SC/AMR TWG AMR Secretariat	X						National and Sub-national
Activity 2.1.2 Develop a national guideline for AMR surveillance system											
2.1.2.1 Organize stakeholders meeting to develop National AMR surveillance guideline	Workshop	1	Availability of National AMR surveillance guideline	ONE HEALTH SC/AMR TWG AMR Secretariat		X					National
2.1.2.2 Conduct stakeholders' meeting to validate the revised National AMR surveillance guideline	Workshop	1	Validated AMR surveillance guideline	ONE HEALTH SC/AMR TWG AMR Secretariat		X					National



2.1.2.3 Disseminate the final revised National AMR surveillance guideline	Workshop	3	Number of dissemination events	ONE HEALTH SC/AMR TWG AMR Secretariat	X					National and Sub-national
Activity 2.1.3 Capacitate Laboratory professionals on detection and reporting of AMR										
2.1.3.1 1per human and animal	Develop training manual on Availability of ONE HEALTH AMR detection and reporting in Manual sector (human and animal)		approved training manual	Training SC/AMR TWG AMR Secretariat	X					National
2.1.3.2 on sample collection, packaging, shipping, and sampling techniques for AMR active surveillance sites in both human and animal	Train professionals Trained professional	30	Number of professionals trained	ONE HEALTH SC/AMR TWG	X	X	X	X		National and Sub-national
Activity 2.1.4 Establish antimicrobial resistance active surveillance system in human and animal sector										
2.1.4.1 Identify selected Laboratories for AMR surveillance.	AMR surveillance Labs	6 human/2 animal	Number of Laboratories selected for AMR surveillance	ONE HEALTH SC/AMR TWG	X					National & Sub-national
2.1.4.2 Establish active AMR surveillance system	Surveillance sites	6 human sector/2 animal	Number of AMR surveillance sites	ONE HEALTH SC/AMR TWG	X	X	X	X		National & Sub-national
Activity 2.1.5 Procure modern and automated diagnostic equipment and supplies required for AMR detection										
2.1.5.1 Infrastructural improvement of the identified/existing Laboratories to meet AMR implementation standards	Laboratories	5	Renovated Laboratories	ONE HEALTH SC/AMR TWG	X	X	X	X		National & Sub-national

2.1.5.2 Procure sample collection materials for AMR surveillance site	Surveillance sites	5	Diagnostic supplies procured	MOH/MLF/MoA	X	X	X	X	National & Sub-national
2.1.5.3 Procure diagnostic equipment for antimicrobial determination	Surveillance sites	5	Diagnostic equipment procured	MOH/MLF/MoA			X	X	National
2.1.5.4 Service Contract to cover preventative maintenance, training and repair/replace damaged equipment	Contract/MoU	5	Service contract signed	One health	X	X	X	X	National & Sub-national

Strategic intervention 2.2: Strengthen quality management systems to provide consistent diagnostic standards by all laboratories.

Activity 2.2.1 Establish Quality Management System (QMS) for AMR surveillance in the different sectors.

2.2.1.1 Train laboratory staff on QMS and documentation in the context of One Health	Trained Staffs	30	Number of staff trained	MOH/MLF/MoA ONE HEALTH & PARTNERS	X	X	X	X	All level
2.2.1.2 Develop quality management system guideline in all laboratories	Guideline	1	Guidelines developed/adopted	MOH/MLF/MoA/MOE	X				National & Sub-national
2.2.1.3 Print and disseminate the Quality manual	Printed quality manual	50	Quality manual developed	ONE HEALTH/PARTNERS	X				National

Activity 2.2.2 Develop standards operating procedures (SOPs) for Laboratory surveillance of AMR in humans and animals, food, agriculture, and environment consistent and harmonized with international standards.

2.2.2.1 Identify priority organisms, samples and testing panels that meet international standards	List	1	List of prioritized organisms	AMR TWG/ONE HEALTH SC & PARTNERS	X				National
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2.2.2.2 Develop and print SOPs for Laboratory AMR surveillance	SOP	1	SOP developed	AMR TWG ONE HEALTH SC&PARTNER S	X					National
2.2.2.3 Conduct dissemination training to Laboratory professionals on the new SOP	Training	10	# Professionals trained in new SOP	AMR TWG ONE HEALTH SC&PARTNER S	X	X				National & Sub-national
2.2.2.4 Advocate the use of approved (WHO, FAO, WOA) standards operating procedures (SOPs) for optimal AMR detection	Advocacy workshop	1	Workshop proceedings	MoH/MoLF/MoEF/MoA&FS		X				National & Sub-national
Activity 2.2.3 Establish an internal and external quality assurance system for AMR surveillance.										
2.2.3.1 Establish routine internal quality assessment (IQA) for AMR surveillance.	Routine assessment	Daily	Number of IQA undertaken	MoH/MoLF/MoA&FS		X	X	X	X	National & Sub-national
2.2.3.1 Introduce a routine external quality assessment scheme (EQAS) for all surveillance Laboratories.	EQAS	2	Number of EQA undertaken	MoH/MoLF/MoA&FS				X	X	National & Sub-national

Intervention 2.3: Establish integrated antimicrobial resistance surveillance system that allows data sharing from human, water, environment, animal and agricultural sectors.

Activity 2.3.1 Develop national guidelines and plan for an integrated surveillance systems on AMR

2.3.1.1 Develop an integrated AMR surveillance plan	Plan	1	Approved Integrated AMR surveillance plan	AMR TWG	X					National
2.3.1.2 Print and distribute the integrated AMR surveillance plan	Surveillance plan	100	Number of copies printed and disseminated	AMR TWG	X					National

Activity 2.3.2 Establish a harmonized database and information sharing system on AMR in human, animal, plant, and environmental health

2.3.2.1 Assess and update existing databases of AMR in the various sectors.	Survey	1	Survey report	AMR TWG						X			National
2.3.2.2 Identify and designate a sector as a national focal point for data collection and repository on AMR.	Focal point	1	Designated focal point	AMR TWG AMR secretariat						X			National
2.3.2.3 Develop data management guideline for data collection, analysis, and information management.	AMR data management guideline	1	Harmonized AMR data management guideline in place	AMR TWG						X			National
2.2.2.4 Print and distribute data management guideline	Printed guideline	100	Number of guidelines printed	AMR TWG						X			National

Activity 2.3.3 Establish a joint reporting mechanism on AMR in human, animal, agriculture, and the environmental sectors

2.3.3.1 Conduct a multispectral technical meeting to establish effective reporting system on AMR	Meeting	3	Meeting proceedings	MOH/MLF/MoA/MOE/One-health						X	X		National
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Activity 2.3.4 Enroll in GLASS AMR and strengthen regular reporting.

2.3.4.1 Strengthen participation of South Sudan in Global Antimicrobial Resistance GLASS AMR	GLASS Enrollment	1	Approved enrollment	AMR TWG	X								National
2.3.4.2 Regular reporting of AMR data through GLASS AMR	Report	1/year	Number of reports submitted	AMR TWG	X	X	X	X	X	X			National

Intervention 2.4: Support Surveillance for Antimicrobial Drug Residues in Food and Environment

Activity 2.4.1 Strengthen laboratory capacity to carry out antimicrobial residue testing for food and feed products.

2.4.1.1 Capacitate laboratory with equipment for antimicrobial residue testing.	Procurement	6	Residue testing equipment available	MoH/MoLF/MoEF		X	X	X	National
2.4.1.2 Capacitate laboratory with reagents for antimicrobial residue testing.	Procurement	1/year	Residue testing reagent available	MoH/MoLF/MoEF		X	X	X	National
2.4.1.3 Establish laboratory for environmental sample testing	Lab	1	Modification of lab space for testing	MoH/MoLF/MoEF	x	x			National

Activity 2.4.2 Establish surveillance and research of antimicrobial residues, effluent and waste in the environment, agriculture, food and feed sectors

2.4.2.1 Establish national antimicrobial residue surveillance system for environment, plant and food safety	Surveillance system	1	System established	MoH/MoLF/MoEF		X	X	X	National and subnational
2.4.2.2 Conduct research and surveillance on antimicrobial residues in food, effluents and waste	Research Report	5	Number of research reports produced	MoH/MoLF/MoEF		X	X	X	National and subnational

Intervention 2.5: Strengthen research capacity on AMR in human, animal, agriculture, and environmental health.

Activity 2.5.1 Develop an integrated and prioritized research agenda for AMR across all sectors.

2.5.1.1 Organize a workshop to identify current gaps in AMR research in sectors and institutions	Workshop	1	AMR research priority identified	AMR TWG		X			National
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2.5.1.2 Validate the priority research topics and issues to be integrated in Research agenda	Workshop	1	Validated research priorities	AMR TWG				X		National
2.5.1.3 Sensitize stakeholders and donors to conduct and support AMR research across sectors	Workshop	2	Number of sensitization events	AMR TWG				X	X	National
Activity 2.5.2 Capacitate professionals on basic and operational research in antimicrobial use and resistance.										
2.5.2.1 Organize research methodology training on AMR for professionals in human, animal, agriculture, and environmental sectors.	Training	1/year	Number of trainings provided	AMR TWG	X	X	X	X	X	National and subnational
Activity 1.5.3 Conduct research AMR/AMU across the sectors to understand the drivers for AMR/AMU and use for policy formulation										
2.5.3.1 Develop continuous AMR related research proposals with one health approach in response to calls.	Workshop	5	Number of proposals developed	AMR TWG	X	X	X	X	X	National and subnational
2.5.3.2 Advocate for academic institutional research on AMR	Workshop	2	Number of academic research studies conducted on AMR	AMR TWG				X	X	National and subnational
Activity 2.5.4 Establish platform (conference or symposium) for regular information sharing on antimicrobial resistance research.										
2.5.4.1 Organize AMR research finding communication workshop for AMR stakeholders	Workshop	4	Number of dissemination platform	AMR TWG	X	X	X	X	X	National and subnational

Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.

Strategic intervention 3.1 Strengthen infection prevention and Control (IPC) program in health care settings.

Sub-activity	Unit	Quantity	Indicator	Responsible entity	Timelines in years					Implementation level	Cost
					YR 1	YR2	YR3	YR4	YR5		
Activity 3.1.1 Conduct advocacy and sensitization on national IPC policy and Strategic Plan for relevant stakeholders											
3.1.1.1 Conduct orientation workshop for facility and county IPC focal persons on IPC policy and Strategic Plan	Workshop	3	Number of advocacy workshops	MOH/IPC TWG/AMR TWG	X						National and subnational
3.1.1.2 Orientate all healthcare workers at each facility on the national IPC policy and Strategic Plan	Workshop	5	Number of Advocacy workshop	MOH/IPC TWG/AMR TWG	X						National and subnational
3.1.1.3 Monitor implementation of the National IPC policy and Strategic Plan at health facilities	Facilities		% Facilities implemented National IPC policy and Strategic Plan	MOH/IPC TWG/AMR TWG		X	X	X	X		National and subnational
Activity 3.1.2 Strengthen the availability of IPC related equipment, PPE, supplies, utilities (water supply) and guidelines											
3.1.2.1 Support provision of adequate and appropriately maintained water, sanitation, and health care waste management facilities	Facilities	20	% Facilities with adequate water and sanitation	ONE HEALTH SC/IPC TWG/AMR TWG		X	X	X	X		National and subnational
3.1.2.2 Train professional on appropriate use of IPC equipment, supplies and utilities	Training	4	Number of trainings provided	ONE HEALTH SC/IPC TWG/AMR TWG		X	X	X			National and subnational

Activity 3.1.3 Develop, and disseminate IPC training manuals, SOPs, and IEC materials to all health professionals

3.1.3.1 Develop IPC training manual and SOPs	Manual and SOPs	1	Number of manuals and SOPs developed and reviewed	ONE HEALTH SC/IPC TWG/AMR TWG					X		National
3.1.3.2 Develop IPC Information, Education and communication (IEC) & behavioral change communication materials (BCC materials)	IEC materials	10000	Number of IEC materials Developed	ONE HEALTH SC/IPC TWG/AMR TWG					X		National
3.1.3.3 Organize IPC Training of Trainers (TOT) training for professionals	Training	2	Number TOT training provided	ONE HEALTH SC/IPC TWG/AMR TWG					X	X	National and subnational

Activity 3.1.4 Conduct sensitization campaigns to promote personal and phytosanitary hygiene.

3.1.4.1 Organize community handwashing awareness meeting with key stakeholders	Awareness meetings	2	Number awareness meetings with stakeholders	ONE HEALTH SC/IPC TWG/AMR TWG		X	X	X	X		National and subnational
3.1.4.2 Celebrate global handwashing day in schools by holding special program	Schools	4	Number of schools celebrating global handwashing day	ONE HEALTH SC/IPC TWG/AMR TWG/PARTNERS		X	X	X	X		National and subnational
3.1.4.2 Conduct sensitization campaign to promote personal phytosanitary hygiene in the community	Campaign	10 (2/Year)	Number of campaigns conducted	ONE HEALTH SC/IPC TWG/AMR TWG/PARTNERS	X	X	X	X	X		National and subnational

Strategic intervention 3.2 Prevent and monitor health care-associated infections at human and veterinary health facilities

Activity 3.2.1 Conduct health care-associated infections survey at the health facilities

3.2.1.1	Organize a meeting to	Meeting	1	Validated tool for	ONE
HEALTH	X	National	develop a survey tool to conduct		the
survey SC/IPC					
health care-associated infections			TWG/AMR TWG/PARTNER S		
3.2.1.2	Conduct an assessment on	Assess men	1		
Assessment report	ONE HEALTHX	National health care-associated infections in	t		
SC/IPC	and				
facilities			TWG/AMR TWG/PARTNER S		subnational

Activity 3.2.2 Implement health care-associated infection prevention measures

3.2.2.1	Provide training for health	Training	5	Number of	ONE
HEALTH	X	X	X	National professionals on health care-	trainings
SC/IPC				and	
associated infection prevention				TWG/AMR	subnational
measures				TWG/PARTNER S	
3.2.2.2	Regular onsite support for	Onsite	2/year	Number of onsite	
ONE HEALTH	X	X	X	National facilities to implement HCAs	support
supports	SC/IPC			and	
prevention measures		conducted		TWG/AMR	subnational
				TWG/PARTNER S	

Strategic intervention 3.3 Accelerate Vaccination Campaigns to enhance prevention and control of diseases and infections in human and animal health

Activity 3.3.1 Conduct Vaccination Campaign for various health threats

3.3.1.1	Organize a workshop to	Workshop	2	Availability of	ONE HEALTH	X	National
review the existing vaccination				reviewed programs	SC/IPC		
					TWG/AMR		

programs in animal and human health				TWG/PARTNER S					
3.3.1.2 Organize sensitization meetings for relevant stakeholders on the use of Preventive medication (Vaccines).	Sensitization meetings	4	Number of sensitization meetings	ONE HEALTH SC/IPC TWG/AMR TWG/PARTNER S	X	X	X	X	National and subnational
3.3.1.3 Conduct Vaccination Campaign for various health threats	Vaccination campaigns conducted	4	Number of campaigns	ONE HEALTH SC/IPC TWG/AMR TWG/PARTNER S	X	X	X	X	National and subnational
Activity 3.2.2 Capacitate Professionals on prevention and control of diseases in human and animal									
3.2.2.1Conduct training to capacitate professionals on prevention and control of diseases in human and animal	Training	5	Number training provided	ONE HEALTH SC/IPC TWG/AMR TWG/PARTNER S	X	X	X	X	National and subnational
Strategic intervention 3.4 Strengthen waste management systems in the health, agriculture, and environment sectors and communities									
Activity 3.4.1Develop a comprehensive guideline of waste management system across the sectors									
3.4.1.1Develop a comprehensive guideline for waste management	Guideline	1	Comprehensive waste management guideline in place	ONE HEALTH SC/AMR TWG/PARTNER S		X			National
3.4.1.2 Print and distribute waste management guideline	Guideline	1000	Number of waste management guidelines distributed	ONE HEALTH SC/AMR TWG/PARTNER S		X			National and subnational
Activity 3.4.2 Conduct regular health promotion activities to advocate personal hygiene and environmental sanitation.									

3.4.2.1 Assess knowledge attitude and practice of hand and phytosanitary hygiene and environmental sanitation in different social groups of the community as well as in animal, plant and fishery and workers.	Assessment	1	Availability of KAP findings with recommendations	ONE HEALTH SC/AMR TWG/PARTNERS/ACADEMIA		X				National and subnational
3.4.2.2 Develop promotional materials based on the KAP findings	Promotional materials (Flyers Brochures)	10000	Number and type of promotional materials developed	ONE HEALTH SC/AMR TWG/PARTNERS		X				National
3.4.2.3 Conduct continuous campaigns on personal hygiene and environmental sanitation for all sectors.	Campaigns	1year	Number of campaigns conducted	ONE HEALTH SC/AMR TWG/PARTNERS		X	X	X		National and subnational
Activity 3.4.3 Promote and enforce hazardous waste management in health facilities										
3.4.3.1 Promote and enforce health facilities to have functional incinerator, refuse pits and solid waste collection bins	Health facilities	20	Percentage of HF with functional and proper solid waste management	ONE HEALTH SC/AMR TWG/PARTNERS	X	X	X	X		National and subnational
3.4.3.2 Promote and enforce hazardous waste management in health facilities	Health facilities	20	Percentage of HF with functional and proper hazardous waste management	ONE HEALTH SC/AMR TWG/PARTNERS	X	X	X	X		National and subnational
3.4.3.3 Conduct awareness campaign for waste segregation and disposal	Campaign	3	Number of campaigns conducted	ONE HEALTH SC/AMR TWG/PARTNERS	X	X	X	X		National and subnational

3.4.3.4 Organize a workshop to develop a tool to monitor emerging pollutants	Workshop	2	Availability of finalized tool	ONE HEALTH SC/AMR TWG/PARTNER S	X	X		National and subnational
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Strategic intervention 3.5 Strengthen Water, Sanitation, and Hygiene (WASH) services

Activity 3.5.1 Support and enforce human and animal health facilities to provide functional handwashing and bathing facility for staff and patients

3.5.1.1 Organize onsite support to enforce human and animal health facilities to provide functional handwashing and bathing facility for staff and patients	Onsite support	5	Percentage of HF having functional bathing facility for staff and patients	ONE HEALTH SC/AMR TWG/PARTNER S	X	X	X	National and subnational
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Activity 3.5.2 Support facilities to prepare and dispense alcohol-based hand sanitizer

3.5.2.1 Orient facility staff on how to prepare and dispense alcohol-based hand sanitizers	Orientation meeting	1	Number of meetings conducted	ONE HEALTH SC/AMR TWG/PARTNER S	X			National and subnational
3.5.2.2 Support facilities to prepare and dispense alcohol-based hand sanitizer	Onsite support	4	Number of onsite supports	ONE HEALTH SC/AMR TWG/PARTNER S	X	X	X	National and subnational

Strategic interventions 3.6 Strengthen good husbandry practices and bio-security interventions in animal husbandry, plant, and fishery sectors.

Activity 3.6.1 Conduct assessment of knowledge, attitudes, behavior, and practices on good husbandry practice

3.6.1.1 Assess KAP on good husbandry practice	Survey	1	Number of KAP assessment conducted	ONE HEALTH SC/AMR TWG/PARTNER S		X		National and subnational
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3.6.1.2 Organize a workshop to disseminate KAP assessment findings	Workshop	1	Validation workshop and proceedings	ONE HEALTH SC/AMR TWG/PARTNER S	X			National and subnational
Activity 3.6.2 Develop guidelines on good bio-security measures in animal husbandry, plant health, crop production, and fishery sectors.								
3.6.2.1 Review and develop/adapt guideline on good biosecurity measures in animal husbandry, plant, and fishery sectors.	Guideline	1	Validated guideline,	ONE HEALTH SC/AMR TWG/PARTNER S	X			National and subnational
3.6.2.2 Organize a sensitization meeting for AMR stakeholders on good biosecurity measure guideline	Sensitization workshop	3	Number of Sensitization workshops	ONE HEALTH SC/AMR TWG/PARTNER S	X	X		National and subnational
Activity 3.6.3 Train human and animal health workers on the biosecurity guidelines								
3.6.3.1 Conduct TOT training for plant, fishery, and animal professionals on the guidelines.	TOT training	3	Number of TOT training provided	ONE HEALTH SC/AMR TWG/PARTNER S	X	X	X	National and subnational
3.6.3.2 Conduct regular monitoring of good animal husbandry and biosecurity activities in animal husbandry, plant, and fishery.	Onsite monitoring	5	Monitoring reports	ONE HEALTH SC/AMR TWG/PARTNER S	X	X	X	National and subnational
Activity 3.6.4 Develop bio-risk guidelines for animal feed processing and poultry, dairy and beef production, food handlers and traders								
3.6.4.1 Conduct bio-risk assessment	Survey	1	Survey report	ONE HEALTH SC/AMR TWG/PARTNER S	X			National and subnational
3.6.4.2 Develop bio-risk guideline	Guideline	1	Guideline developed	ONE HEALTH SC/AMR	X			National

3.6.4.3 Organize a meeting to disseminate bio-risk guideline for relevant stakeholders	Meeting	3	Number of dissemination meetings	TWG/PARTNERS ONE HEALTH SC/AMR TWG/PARTNERS		X	X			National and subnational
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Strategic Objective 4: Optimize the use of antimicrobial agents in human, animal and plant health.

Strategic intervention 4.1 Establish antimicrobial stewardship program for selected facilities

Sub-activity	Unit	Quantity	Indicator	Responsible entity	YR1	Timelines in years				Implementation level	Cost
						YR2	YR3	YR4	YR5		
Activity 4.1.1 Develop and disseminate antimicrobial stewardship policy											
4.1.1.1 Organize a stakeholder workshop to develop the antimicrobial stewardship policy.	Working Manual	1	Number of working manuals developed	MoH, ML&F, MWC&T, ONE HEALTH SC		X				National	
4.1.1.2. Print and disseminate the stewardship policy for health facilities	Printed copies	300	Number of copies printed	MoH, ML&F, MWC&T, ONE HEALTH SC		X				National and subnational	
Activity 4.1.2 Institutionalize antimicrobial stewardship in healthcare facilities											
4.1.2.1 Conduct ASP sensitization workshop for health facility managers at all levels	Sensitization meeting	3	Number of ASP sensitization meetings	MoH, ML&F, MWC&T.		X	X	X		National and subnational	
4.1.2.2 Ensure antimicrobial stewardship as one of health care	Health facilities	20	Number of facilities with functional ASP	MoH, ML&F, MWC&T.		X	X	X	X	National and	

facility managements' quality improvement parameters										subnational
Activity 4.1.3 Provide training on antimicrobial stewardship program										
4.1.3.1 Develop integrated Antimicrobial Stewardship program training manual	Manual	1	Approved training manual	MoH/AMR TWG/ ONE HEALTH SC	X					National
4.13.2 Organize TOT training for selected antimicrobial stewardship program team members	TOT training	2	Number of ASP team trained	MoH/AMR TWG/ ONE HEALTH SC	X		X			National and subnational
4.13.3 Provide ASP cascading training for the Antimicrobial Stewardship and the Drug and Therapeutic Committees and other professionals	Training	6	Number of professional trained	MoH/AMR TWG	X	X	X	X		National and subnational
Activity 4.14 Conduct point prevalence survey on antibiotic use in Hospitals										
4.1.4.1 Organize a technical meeting to adapt point prevalence survey tool	Meeting	1	Final survey tool	MoH/AMR TWG		X				National
4.14.2 Conduct the point prevalence survey	Survey	1	Survey findings	MoH/AMR TWG		X				National and subnational

Strategic intervention 4.2 Ensure optimal prescribing, dispensing and use of antimicrobials in human

Activity 4.2.1 Facilitate continued education and training to promote responsible prescribing and dispensing practices.

4.2.1.1 Conduct a needs assessment to inform AMR related CMEs trainings for relevant professionals	Assessment	1	Need assessments findings	MoH/AMR TWG/Partners		X				National
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4.2.12 Conduct regular CMEs and training for health professionals	CMEs and trainings	3/year	Number of CMEs and training organized	MoH/AMR TWG/Partners		X	X	X	National and subnational
Activity 4.2.2 Review and disseminate STGs/EML based on antimicrobial resistance data and incorporate AWaRe classification of antibiotics									
4.2.2.1 Review STG/EML based on the AMR data available.	STG	1	Updated STGs/EML	MoH/Partners DFCA/NBS/Academia		X		X	National and subnational
4.2.2.2 Conduct stakeholders' validation meeting on the revised STG/EML	Workshop	1	Validation workshop proceedings	MoH/Partners DFCA/NBS/Academia		X		X	National and subnational
4.2.2.3 Printing of the updated STG/EML	Number of copies	300	Number of copies printed	MoH/Partners DFCA/NBS/Academia		X		X	National
4.2.2.4 Dissemination of STG/EML	Workshop	3	Number of copies disseminated	MoH/AMR TWG/Partners		X		X	National and subnational
4.2.2.5 Provide orientation for health professionals on AWaRe categorization of antibiotics	Orientation workshop	5	Number of orientation workshops	MoH/AMR TWG/Partners		X		X	National and subnational
Activity 4.2.3 Develop Antimicrobial prescribing and dispensing manuals									
4.2.3.1 Organize a workshop to develop manual for antimicrobial prescribing and dispensing,	Workshop	2	Draft prescribing and dispensing manual	MoH/Partners /DFCA		X			National & Sub national

4.2.3.2 Conduct stakeholders' validation meeting on the manual	Workshop	1	Validated manual	MoH/Partners /DFCA		X					National & Sub national
4.2.3.3 Printing and dissemination of manuals	Number of copies	500	Number of copies printed	MoH/Partners /DFCA		X					National & Sub national
4.2.3.4 Training of prescribers and dispensers on the	Training	6	Number of professionals trained on the manual	MoH/Partners /DFCA		X	X	X	X		National & Sub national
Activity 4.2.4 Strengthen supervision of prescribing and dispensing outlets											
4.2.4.1 Develop a tool for more efficient supervision and monitoring of healthcare facilities and pharmacies/drug stores	Tool	1	Finalized tool	MoH/DFCA/Partners			X				National & Sub national
4.2.4.2 Train professional councils and Licensing organs on supervision and monitoring dispensing outlets	Training	5	Number of Licensing bodies and professional councils trained	MoH/DFCA/Partners			X				National & Subnational

Strategic intervention on 4.3 Strengthen antimicrobial use and consumption surveillance in human, animal, and plants

Activity 4.3.1 Conduct antimicrobial use and consumption surveillance at the national Level and contribute data at global Level

4.3.1.1 Conduct survey on antimicrobial consumption in humans and animal population	Survey	1/year	Number surveys	MoH/MWC&T/MLF			X				National & Sub national
4.3.1.2 Regular reporting of AMR data through GLASS AMC	Report	1/year	Number of reports submitted	AMR TWG	X	X	X	X	X		National

Strategic intervention 4.4 Prudent Use of Antimicrobials in Agriculture and Veterinary Medicine

Activity 4.4.1 Develop and disseminate prescription guidelines, veterinary standard treatment guidelines and formulary for improving appropriate use of antimicrobials in agriculture and veterinary medicine

4.4.1.1 Develop Prescribing/treatment guidelines in animals and plants	Prescribing /treatment guideline	1	Availability of Prescribing/treatment guideline	One health SC/Academia		X				National
4.4.1.2 Print and distribute the guidelines	Copies of the guideline	500	Number of copies	One health SC		X	X			National & Sub National
4.4.1.3 Organize training for veterinary and agriculture professionals on prescription/treatment guidelines	Training	5	Number of trained professionals	MAFS/MOH/MLF/Academia		X	X	X		National & Sub National

Activity 4.4.2 Restrict use of antimicrobials as growth promoters or as feed additives

4.4.2.1 Conduct a risk assessment on the use of growth promoters and use of antimicrobial agents as feed additives	Assessment	1	Assessment report	One Health Multi-Sectoral Steering committee		X				National & Sub national
4.4.2.2 Develop regulation or guidelines on the use of growth promoters and antimicrobial agents as feed additives.	Guidelines	1	Guideline developed	One Health Multi-Sectoral Steering committee		X				National
4.4.2.3 Print and distribute the regulation/guidelines on growth promoters and feed additives.	Copies of guidelines	1000	Number of copies of guidelines printed and disseminate	One Health Multi-Sectoral Steering committee		X			X	National
4.4.2.4 Sensitize farmers /animal health professionals and feed importers/producers on growth promoters.	Sensitization workshop	10	Number of sensitization workshop	One Health Multi-Sectoral Steering committee		X	X	X	X	National & Sub National

Activity 4.4.3 Develop antimicrobial stewardship guidelines for animal health facilities

4.4.3.1 Develop antimicrobial stewardship guidelines for animal health	Guideline	1	Guideline developed	MAFS/MOH/MLF/Academia/partners	X			National
4.4.3.2 Print and disseminate antimicrobial stewardship guidelines for animal health	Copies of guidelines	1000	Number of copies produced	MAFS/MOH/MLF/Academia/partners	X			National & Sub National
4.4.3.3 Train veterinary professionals on antimicrobial stewardship program in both public and private sector.	Training	5	Number of professionals trained	MAFS/MLF/Academia/partners	X	X	X	National & Sub National

Activity 4.4.4 Implement antimicrobial stewardship in selected animal health facilities

4.4.4.1 Conduct need assessment on AMS program in veterinary sector	Assessment	1	Assessment findings	MAFS/MLF/Academia/partners	X			National & Sub National
4.4.4.2 Implement AMS in selected public and private animal health facilities	Health facilities	10	Number of HF implementing antimicrobial stewardship	MAFS/MLF/Academia/partners	X	X	X	National & Sub National

Strategic intervention 4.5 Develop and enforce legislation on prescriptions for combating AMR in human, animal and plant

Activity 4.5.1 Conduct a situational analysis of the existing regulations/legislations and their enforcement on antimicrobial use

4.5.1.1 Review the existing regulation on prescription of antimicrobial use/consumption.	Situational analysis	1	SA with gaps and recommendations	One Health SC DFCA	X			National
4.5.1.2 Conduct stakeholder validation meeting of the situational analysis	Workshop	1	Validation workshop proceedings	One Health SC /DFCA	X			National

Activity 4.5.2 Develop Legislation/regulation on prescription and sale of antimicrobials for human, animal and plant

4.5.2.1 Develop Legislation/regulation on prescriptions and sale of antimicrobial agents in human, animal and plant use	Regulation /Legislation document	1	Regulation/Legislation on developed	MoH/One health SC/Academia/DFCA/NBS	X					National
4.5.2.2 Conduct stakeholders meeting to popularize regulations of prescriptions and sale of antimicrobials in human and animal health/sector	Workshop	1	Popularization workshop proceedings	MoH/One health SC/Academia/DFCA/NBS	X	X				National &subnational
Activity 4.5.3 Conduct supervision of pharmacies and ensure adherence to good pharmacy practices										
4.5.3.1 Number of pharmacies and establish compliance of over-the-counter medication	Conduct inspection of DFCA/MoH	Ly	Inspection pharmacies inspected	Quarter	X	X	X	X		National &subnational
4.5.3.2 Enforce regulation and compliance to over-the-counter medication	Report	Quarter Ly	Number of pharmacies	DFCA/MoH	X	X	X	X		National &Subnational

Strategic intervention 4.6 Ensure an effective supply chain management of quality essential antimicrobials and laboratory supplies

Activity 4.6.1 Advocate inclusion of priority antimicrobials and Laboratory supplies in the Long-term procurement agreement with government/non-government suppliers

4.6.1.1 Assess prioritization of essential antimicrobials and Laboratory supplies in the government and non-government procurement List for human and animal health sectors	Assessment	1	Assessment report	DFCA/MoH/MA&F S/AMR TWG		X				National
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4.6.1.2 Advocate inclusion of priority antimicrobials and Laboratory supplies in the government Long-term procurement agreements and/or non-government suppliers	Long term agreement	Continuous	Antimicrobial and Laboratory supplies included in suppliers' Long-term procurement agreements	MoH/PARTNERS		X	X	X	National
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Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the national needs and increase investment in new medicines, diagnostic tools, vaccines, and other interventions.

Strategic intervention 5.1 Strengthen the governance and multisectoral coordination for sustainable implementation of AMR NAP.

Sub-activity	Unit	Quantity	Indicator	Responsible entity	Timelines in years					Implementation level	Cost
					YR 1	YR2	YR3	YR4	YRS		
Activity 5.1.1 Establish and strengthen national AMR multisectoral steering committee, national AMR secretariat, and TWGs											
5.1.1.1 Define membership and approve TOR for the AMR multisectoral steering committee, national AMR secretariat	TOR	1	Approved TOR	AMR TWG	X						National
5.1.1.2 Define membership and approve TORs for AMR six-Technical Working Groups	TOR	1per TWG	Approved TOR	AMR TWG	X						National
5.1.1.3 Organize AMR sensitization workshop for the TWGs	Workshop	2	Workshop proceedings	AMR TWG	X	X					National
5.1.1.3 Organize regular quarterly meeting for NAP implementation review	Meeting	3/year	Meeting report	AMR TWG	X	X	X	X	X		National

Activity 5.2.2 Identify and engage Local and international funding agencies to support AMR interventions

5.2.2.1 Map and identify all AMR funding agencies in the country	Workshop	2	List of AMR funding agencies	AMR TWG	X	X	National & Sub-national
5.2.2.2 Engage stakeholders to document their areas of NAP-AMR implementation and their supports	Workshop	2	List of AMR activities with funding source	AMR TWG	X	X	National & Sub-national

Strategic intervention 5.3 Determine the economic impact of AMR in South Sudan

Activity: 5.3.1 Conduct economic evaluation to determine expenditures for treatment of infectious disease in the country

5.3.1.1 Organize a meeting to develop a protocol for the economic evaluation	Workshop	2	Protocol in place	AMR TWG	X	X	National
5.3.1.2 Collect data across the country to study the economic impact of AMR in SSD	Field work	2	Field work report	AMR TWG	X	X	National & Sub-national
5.3.1.3 Organize a workshop to perform data analysis and report writing	Workshop	2	Economic evaluation report	AMR TWG	X	X	National

Strategic intervention 5.4 Promote public-private partnerships on antimicrobial resistance prevention and containment

Activity 5.4.1 Develop public-private partnership framework on antimicrobial resistance

5.4.1.1 Engage all relevant AMR stakeholders to develop Public Private Partnership (PPP) framework	Workshop	1	PPP framework developed	AMR TWG	X	National & sub-national
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5.4.1.2 Disseminate the PPP framework for all relevant stakeholders	Workshop	2	Dissemination report	AMR TWG	X			National & sub-national
Activity 5.4.2 Conduct regular advocacy platforms to engage the private sector on antimicrobial resistance								
5.4.2.1 Identify relevant AMR stakeholder from the private sector	Workshop	1	List of relevant private stakeholders	AMR TWG	X			National
5.4.2.2 Organize regular advocacy workshop	Workshop	5	Number of workshops	AMR TWG	X			National & sub-national

Strategic intervention 5.5 Promote Innovation in the Search for Alternative Treatments and Drug Development

Activity 5.5.1 Support academia and other researchers in product development including application of traditional and indigenous knowledge.

5.5.1.1 Provide seed funding for proposal development in product development and indigenous knowledge on antimicrobial solutions	Proposal	10	Number of proposals funded	AMR TWG		X	X	National
5.5.1.2 Establish and promote regional and international collaboration for AMR R&D	MOU signed	3	Number of MOU signed	AMR TWG		X	X	National

Activity 5.5.2 Advocate for Multi-sectoral collaboration for research on alternative medicines in various aspects of antimicrobial use and resistance in humans, animals, and plants

5.5.2.1 Sensitize relevant stakeholders to mobilize resources required for research on alternative medicines	Workshop	2	Number of sensitization workshop	AMR TWG	X	X		National & sub-national
5.5.2.2 Carry out a country-wide survey of indigenous knowledge on antimicrobial solutions	Survey	1	Survey report	AMR TWG		X	X	National & sub-national

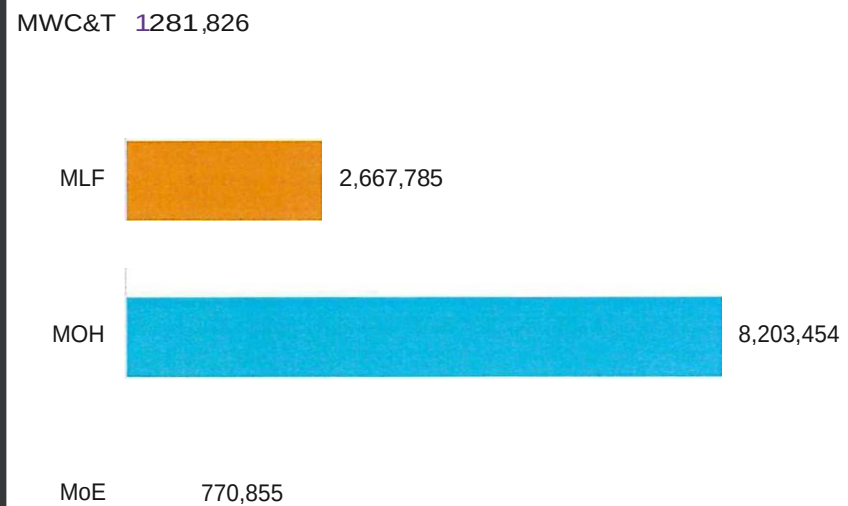
6. COSTED OPERATIONAL PLAN

The South Sudan AMR NAP was costed using the WHO Costing and Budgeting Tool for AMR NAPs. Prioritization of activities in the Operational Plan were conducted and costed all the 172 Sub activities across the five strategic objectives and, lead agencies and implementers. The total budget for the AMR NAP 5-year operational plan was USO 11,923,921; a detailed breakdown of the costed document to activity-Level costs for each strategic intervention is also found on Annex II and [here](#).

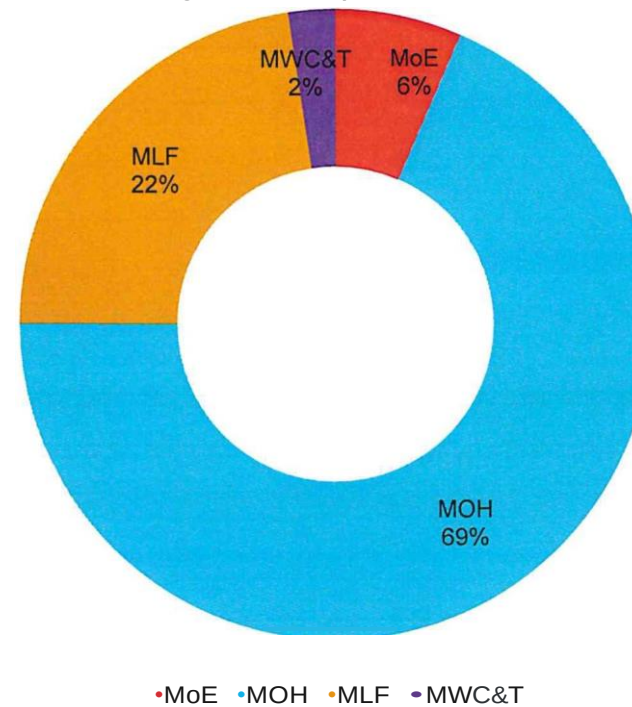
STRATEGIC OBJECTIVE	MoE	LEAD AGENCY			Total
		MOH	MLF	MWC&T	
Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training	224,132	1,757,608	714,975	8,995	2,705,710
Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research	274,455	3,486,468	598,278	153,381	4,512,581
Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.	174,297	728,609	519,476	37,859	1,460,242
Strategic Objective 4: Optimize the use of antimicrobial medicines in human and animal health.	16,380	804,909	541,204		1,362,493
Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the national needs and increase investment in new medicines, diagnostic tools, vaccines, and other interventions.	81,592	1,425,860	293,852	81,592	1,882,895
Total	770,855	8,203,454	2,667,785	281,826	11,923,921

Total budget: USD 11,923,921,

Distribution of Costs Across Lead Agencies/Implementers



Distribution of Costs Across Lead Agencies/Implementers



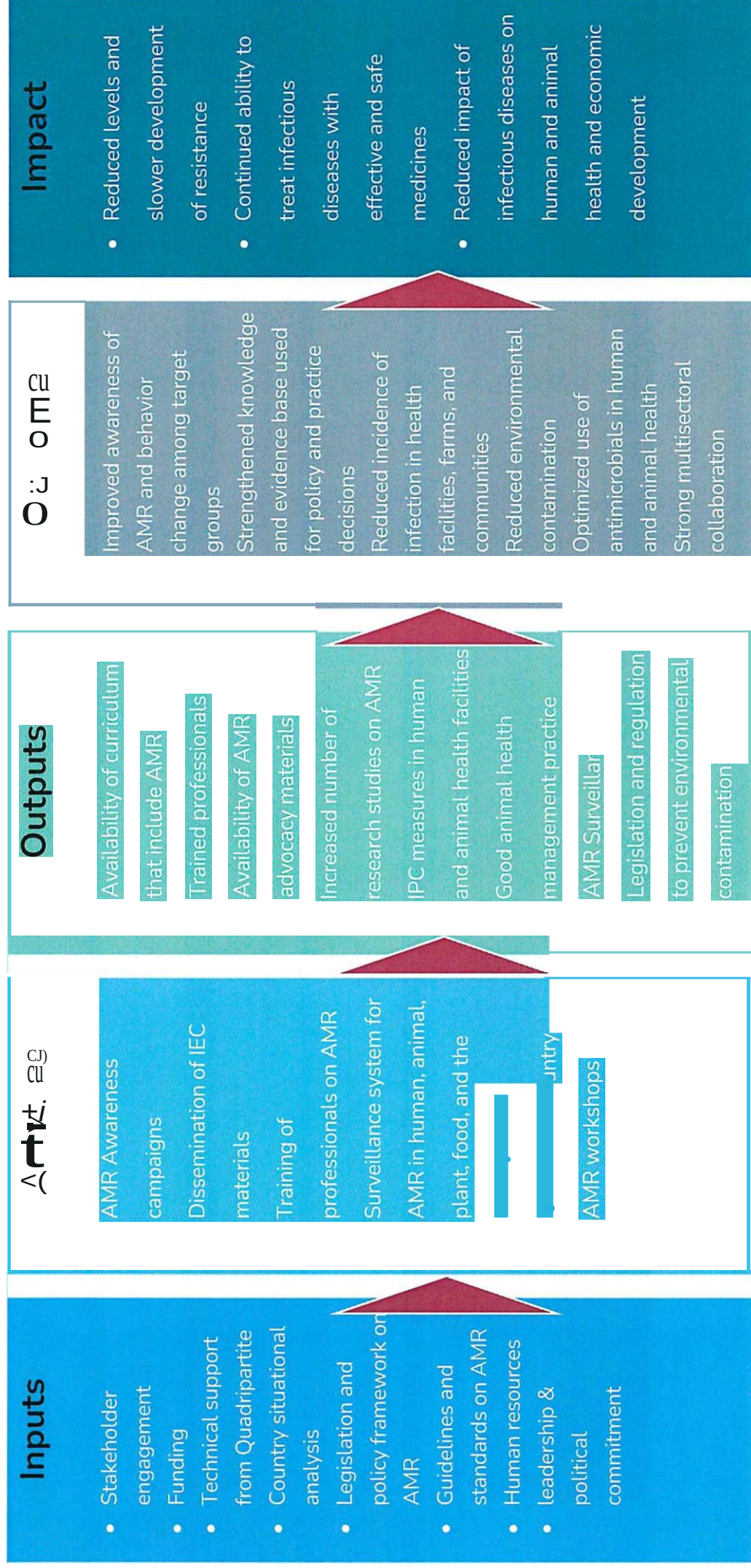


7. MONITORING AND EVALUATION PLAN

The goal of the AMR National Action Plan M&E plan is to establish a system that is robust, comprehensive, fully integrated, and well-coordinated to guide monitoring of the implementation of the AMR NAP and evaluate impact. It also provides a strategic Link with the relevant stakeholders to ensure that strategies are effective in responding to the antimicrobial resistance threats in South Sudan. Moreover, it enables problems to be detected early, thereby reducing the Likelihood of major cost overruns or time delays and related health outcomes.

Monitoring should take place bi-annually and be Led by AMR TWG. Evaluation of the implementation of the NAP AMR should take place at halfway through the timeframe (last quarter of 2025) and at the end of Year 5 (mid - 2028). The indicator framework provides a List of indicators at output, outcome and Impact Level selected by the stakeholders to track progress towards implementation of Strategic Objectives, Strategic interventions, key activities, and underlying sub activities.

Logic Model



7.2. Key performance indicators

Baseline information and data is missing for the majority of indicators on the table below. Hence, it is proposed that each of the AMR Technical Working Groups will collect baseline data and set targets for 2023-2028 AMR NAP implementation period.

Indicator	Type of indicator	Data source	Frequency of data collection	Baseline	Target (Each year)
Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training.					
Increased Awareness and understanding Level on antimicrobial resistance among humans, animals, and environment health professionals	Outcome	Survey report	2-3 years		
Percentage of schools implementing curricula that includes AMR and related topics	Output	Survey report	5 years		
Number of advocacy workshops created on antimicrobial resistance for policymakers	Output	Institutional report	Annualy		
Number of antimicrobial resistance trainings for media professionals	Output	AMR TWG report /Institutional report	Annualy		

Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research.

Number of laboratories included in the national AMR surveillance system to detect and report antimicrobial resistance in human sectors	Output	NPHL report/AMR TWG report	Annually
Number of laboratories included in the national AMR surveillance system to detect and report antimicrobial resistance in the animal sector	Output	One Health SC/AMR TWG	Annually
Number of AMR data submitted to WHO-GLASS	Output	AMR TWG report/Surveillance report	Annually
Percentage of bloodstream infections due to methicillin-resistant staphylococcus aureus and extended spectrum beta-lactamase E. coli among patients seeking care and blood sampled	Outcome	Published surveillance reports	3-5 years
Number of humans, animal, and environment Labs with a standard quality management system	Output	Admin report	Annual y
Total number research studies on antimicrobial resistance	Output	Published Literatures	Annual y

Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.

Proportion of health care facilities with quality water supply and sanitation facilities	Outcome	Survey report	Annually
Decreased rate of health care-associated infections	Outcome	Survey report	3-5 years
Percentage of HF with functional and proper hazardous waste management system	Outcome	Survey report	Biannually
Availability of guideline on good biosecurity measures in animal husbandry, plant, and fishery sectors.	Output	One Health SC/AMR TWG report	Biannually
Number of school campaigns conducted to promote personal hygiene	Output	One Health SC/AMR TWG report	Annually

Strategic Objective 4: Optimize the use of antimicrobials in human and animal health.

Number of human and animal health care facilities implementing antimicrobial stewardship program	Output	Facility report	Annually
Percentage of adherence to standard treatment guidelines in health facilities	Outcome	Survey report	Biannually
Number of Antimicrobial consumption (AMC) data submitted to WHO-GLASS	Output	AMR TWG report/Surveillance report	Annually

Percentage of antibiotic consumption from ACCESS group in human	Outcome	Health facility report/Survey	Biannually
Availability of veterinary standard treatment guidelines	Output	One Health SC/AMR TWG report/institutional report	3-5 years
Availability of Legislation/regulation on prescriptions and sale of antimicrobial agents in human and animals	Output	One Health SC/AMR TWG report	Biannually

Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the national needs and increase investment in new medicines, diagnostic tools, vaccines, and other interventions.

Functional multi-sectoral AMR TWGs at national Level for sustainable AMR NAP implementation	Outcome	AMR TWG report/One Health SC report	Annually
Availability of funds for the implementation of the AMR National action plan	Output	Responsible ministries	Annually
Availability of national data that estimates the economic impact of antimicrobial resistance in all relevant sectors	Output	Research finding	3-5 year
Increased human resource capacity in R&D	Outcome	AMR TWG	Biannual

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9. ANNEX

Annex I: Participants from Stakeholders Meeting and AMR NAP Development Work shops



Annex II: Elaborated Summary of Cost of Activities and Lead Agency/ Implementer (2023 -2028)

STRATEGIC OBJECTIVE	MoE	MOH	MLF	MWC&T	Total
Strategic Objective 1: Improve awareness and understanding of antimicrobial resistance through effective communication, education, and training	224,132	1,757,608	714,975	8,995	2,705,710
Strategic Intervention 1.1: Improve awareness and understanding of AMR in the various groups of the general population	7,688	1,031,276	206,373	8,995	1,254,332
Activity 1.1.1: Conduct baseline survey to assess knowledge, attitudes and behavioral practice about AMU and AMR among professionals and community in human health, animal health, agriculture, and the environment to guide training and education		302,876			302,876
Activity 1.1.2: Develop and disseminate a comprehensive evidence-based national communication strategy for AMR		45,783			45,783
Activity 1.1.3: Develop and disseminate IEC materials in the local context and language for diverse stakeholders in human, animal, and environmental health sectors		366,343			366,343
Activity 1.1.4: Conduct regular antimicrobial resistance awareness campaigns including World Antimicrobial Awareness Week (WAAW)	7,688	316,274	206,373	8,995	539,329
Strategic Intervention 1.2: Strengthen education and training on antimicrobial resistance of human, animal, plant, and environmental health professionals	216,444	519,405	335,210		1,071,059
Activity 1.2.1: Advocate the incorporation of antimicrobial resistance courses in undergraduate and graduate curriculum for relevant stakeholders		62,827	12,833		75,660
Activity 1.2.2: Incorporate AMR and related topics in undergraduate and graduate curriculum of human, animal, and environment professionals		204,191	105,933		310,124
Activity 1.2.3: Conduct in-service training programs on AMR for human, animal, environmental professionals	216,444	252,386	216,444		685,275
Strategic Intervention 1.3: Enhance engagement of media, civil society organizations, youth groups and opinion leaders on antimicrobial resistance prevention and control		206,928	73,649		280,576
Activity 1.3.1: Provide trainings on antimicrobial resistance for media professionals for the dissemination of AMR key messages to the public		78,066			78,066
Activity 1.3.2: Conduct advocacy workshops on antimicrobial resistance for civil society organizations, youth groups and opinion leaders		128,862	73,649		202,510



Strategic Intervention 1.4: Strengthen antimicrobial resistance advocacy and communication with policymakers			99,744		99,744
Activity 1.4.1: Conduct advocacy workshops on antimicrobial resistance for policy makers across the human, animal, and environmental sector			99,744		99,744
Strategic Objective 2: Strengthen the knowledge and evidence base through surveillance and research	274,455	3,486,468	598,278	153,381	4,512,581
Strategic Intervention 2.1: Strengthen laboratories capacity to detect and report antimicrobial resistance at all sectors		2,967,574	498,676	153,381	3,619,631
Activity 2.1.1: Assess the capacity of existing laboratories with respect to AMR.		53,593			53,593
Activity 2.1.2: Develop a national guideline for AMR surveillance system		23,987			23,987
Activity 2.1.3: Capacitate laboratory professionals on detection and reporting of AMR		216,678	198,740		415,418
Activity 2.1.4: Establish antimicrobial resistance active surveillance system in human and animal sector		77,516			77,516
Activity 2.1.5: Procure modern and automated diagnostic equipment and supplies required for AMR detection		2,595,801	299,937	153,381	3,049,118
Strategic Intervention 2.2: Strengthen quality management systems to provide consistent diagnostic standards by all laboratories.		352,667			352,667
Activity 2.2.1: Establish Quality Management System (QMS) for AMR surveillance in the different sectors.		127,896			127,896
Activity 2.2.2: Develop standard operating procedures (SOPs) for laboratory surveillance of AMR in humans and animals, food, agriculture, and environment consistent and harmonized with international standards.		121,062			121,062
Activity 2.2.3: Establish an internal and external quality assurance system for AMR surveillance.		103,709			103,709
Strategic Intervention 2.3: Establish integrated antimicrobial resistance surveillance system that allows data sharing from human, water, environment, animal and agricultural sectors		71,420			71,420
Activity 2.3.1: Develop national guidelines and plan for an integrated surveillance systems on AMR		36,534			36,534
Activity 2.3.2: Establish a harmonized database and information sharing system on AMR in human, animal, plant, and environmental health		23,595			23,595
Activity 2.3.3: Establish a joint reporting mechanism on AMR in human, animal, agriculture, and the environmental sectors		11,291			11,291

Strategic Intervention 2.4: Support Surveillance for Antimicrobial Drug Residues in Food and Environment	191,582		46,530		238,113
Activity 2.4.1: Strengthen laboratory capacity to carryout antimicrobial residue testing for food and feed products.	63,271		8,405		71,677
Activity 2.4.2: Establish surveillance and research of antimicrobial residues, effluent and waste in the environment, agriculture, food and feed sectors	128,311		38,125		166,436
Strategic Intervention 2.5: Strengthen research capacity on AMR in human, animal, agriculture, and environmental health.	82,872	94,807	53,071		230,751
Activity 2.5.1: Develop an integrated and prioritized research agenda for AMR across all sectors .		58,240			58,240
Activity 2.5.2: Capacitate professionals on basic and operational research in antimicrobial use and resistance.			53,071		53,071
Activity 2.5.3: Conduct research AMR/AMU across the sectors to understand the drivers for AMR/AMU and use for policy formulation	51,393	36,568			87,961
Activity 2.5.4: Establish platform (conference or symposium) for regular information sharing on antimicrobial resistance research.	31,479				31,479
Strategic Objective 3: Reduce the incidence of infection through effective sanitation, hygiene, and infection prevention measures.	174,297	728,609	519,476	37,859	1,460,242
Strategic Intervention 3.1: Strengthen infection prevention and Control (IPC) program in health care settings.		389,392			389,392
Activity 3.1.1: Conduct advocacy and sensitization on national IPC policy and Strategic Plan for relevant stakeholders		177,666			177,666
Activity 3.1.2: Strengthen the availability of IPC related equipment, PPE, supplies, utilities (water supply) and guidelines		27,559			27,559
Activity 3.1.3: Develop, and disseminate IPC training manuals, SOPs, and IEC materials to all health professionals		15,210			15,210
Activity 3.1.4: Conduct sensitization campaigns to promote personal hygiene		168,957			168,957
Strategic Intervention 3.2: Prevent and monitor health care-associated infections at human and veterinary health facilities		113,202	98,089		211,292
Activity 3.2.1: Conduct health care-associated infections survey at the health facilities		53,935	38,822		92,757
Activity 3.2.2: Implement health care-associated infection prevention measures		59,267	59,267		118,535
Strategic Intervention 3.3: Accelerate Vaccination Campaigns to enhance prevention and control of diseases and infections in human and animal health		122,760	115,356		238,116

Activity 3.3.1: Conduct Vaccination Campaign for various health threats		82,728	75,324		158,052
Activity 3.3.2: Capacitate Professionals on prevention and control of diseases in human and animal		40,032	40,032		80,064
Strategic Intervention 3.4: Strengthen waste management systems in the health, agriculture, and environment sectors and communities.	174,297	58,980	37,859	37,859	308,995
Activity 3.4.1: Develop a comprehensive guideline of waste management system across the sectors	38,344				38,344
Activity 3.4.2: Conduct regular health promotion activities to advocate personal hygiene and environmental sanitation.	65,418	19,855	23,230	23,230	131,732
Activity 3.4.3: Promote and enforce hazardous waste management in health facilities	70,535	39,126	14,629	14,629	138,918
Strategic Intervention 3.5: Strengthen Water, Sanitation, and Hygiene (WASH) services		44,275	11,196		55,471
Activity 3.5.1: Support and enforce human and animal health facilities to provide functional handwashing and bathing facility for staff and patients		11,196	11,196		22,392
Activity 3.5.2: Support facilities to prepare and dispense alcohol-based hand sanitizer		33,079			33,079
Strategic Intervention 3.6: Strengthen good husbandry practices and bio-security interventions in animal husbandry, plant, and fishery sectors.			256,976		256,976
Activity 3.6.1: Conduct assessment of knowledge, attitudes, behavior, and practices on good husbandry practice			45,836		45,836
Activity 3.6.2: Develop guidelines on good bio-security measures in animal husbandry, plant, and fishery sectors.			61,523		61,523
Activity 3.6.3: Train human and animal health workers on the biosecurity guidelines			78,980		78,980
Activity 3.6.4: Develop bio-risk guidelines for animal feed processing and poultry, dairy and beef production, food handlers and traders			70,637		70,637
Strategic Objective 4: Optimize the use of antimicrobial medicines in human and animal health.	16,380	804,909	541,204		1,362,493
Strategic Intervention 4.1: Establish AMR stewardship program for selected facilities		366,412			366,412
Activity 4.1.1: Develop and disseminate antimicrobial stewardship policy		43,016			43,016
Activity 4.1.2: Institutionalize antimicrobial stewardship in healthcare facilities		117,546			117,546
Activity 4.1.3: Provide training on antimicrobial stewardship program		101,480			101,480
Activity 4.1.4: Conduct point prevalence survey on antibiotic use in Hospitals		104,370			104,370

Strategic Intervention 4.2: Ensure optimal prescribing, dispensing and use of antimicrobials in human	239,396		239,396
Activity 4.2.1: Facilitate continued education and training to promote responsible prescribing and dispensing practices	59,963		59,963
Activity 4.2.2: Review and disseminate STGs based on antimicrobial resistance data and incorporate AWARe classification of antibiotics	78,889		78,889
Activity 4.2.3: Develop Antimicrobial prescribing and dispensing manuals	84,969		84,969
Activity 4.2.4: Strengthen supervision of prescribing and dispensing outlets	15,575		15,575
Strategic Intervention 4.3: Strengthen antimicrobial use and consumption surveillance in human and animal	26,055	26,055	52,111
Activity 4.3.1: Conduct antimicrobial use and consumption surveillance at the national level and contribute data at global level	26,055	26,055	52,111
Strategic Intervention 4.4: Prudent Use of Antimicrobials in Agriculture and Veterinary Medicine	16,380	391,298	407,678
Activity 4.4.1: Develop and disseminate prescription guidelines, veterinary standard treatment guidelines and formulary for improving appropriate use of antimicrobials in agriculture and veterinary medicine	16,380	133,850	150,230
Activity 4.4.2: Restrict use of antimicrobials as growth promoters or as feed additives		124,132	124,132
Activity 4.4.3: Develop antimicrobial stewardship guidelines for animal health facilities		78,910	78,910
Activity 4.4.4: Implement antimicrobial stewardship in selected animal health facilities		54,406	54,406
Strategic Intervention 4.5: Develop and enforce legislation on prescriptions for combating AMR in human and animal	141,422	113,077	254,499
Activity 4.5.1: Conduct a situational analysis of the existing regulations/legislations and their enforcement on antimicrobial use	16,612	9,208	25,820
Activity 4.5.3: Develop legislation/regulation on prescription and sale of antimicrobials	37,321	16,380	53,701
Activity 4.5.4: Conduct supervision of pharmacies and ensure adherence to good pharmacy practices	87,489	87,489	174,979
Strategic Intervention 4.6: Ensure an effective supply chain management of quality essential antimicrobials and laboratory supplies	31,624	10,773	42,397
Activity 4.6.1: Advocate inclusion of priority antimicrobials and laboratory supplies in the long-term procurement agreement with government/Non-government suppliers	31,624	10,773	42,397

Strategic Objective 5: Develop the economic case for sustainable investment that takes account of the national needs and increase investment in new medicines, diagnostic tools, vaccines, and other interventions.	81,592	1,425,860	293,852	81,592	1,882,895
Strategic Intervention 5.2: Ensure availability of sustainable resources to support AMR interventions		50,682			50,682
Activity 5.2.1: Develop resource mobilization strategies to support AMR interventions		26,008			26,008
Activity 5.2.2: Identify and engage local and international funding agencies to support AMR interventions		24,674			24,674
Strategic Intervention 5.3: Determine the economic impact of AMR in South Sudan		398,612			398,612
Activity 5.3.1: Conduct economic evaluation to determine expenditures for treatment of infectious disease in the country		398,612			398,612
Strategic Intervention 5.4: Promote public-private partnerships on antimicrobial resistance prevention and containment			141,219		141,219
Activity 5.4.1: Develop public-private partnership framework on antimicrobial resistance			39,482		39,482
Activity 5.4.2: Conduct regular advocacy platforms to engage the private sector on antimicrobial resistance			101,737		101,737
Strategic Intervention 5.5: Promote Innovation in the Search for Alternative Treatments and Drug Development		476,414			476,414
Activity 5.5.1: Support academia and other researchers in product development		202,865			202,865
Activity 5.5.2: Advocate for Multi-sectoral collaboration for research on alternative medicines in various aspects of antimicrobial use and resistance in humans, animals, plants and environment		273,549			273,549
Strategic Intervention 5.1: Strengthen the governance and multisectoral coordination for sustainable implementation of AMR NAP.	81,592	500,151	152,633	81,592	815,967
Activity 5.1.2: Establish and Strengthen AMR secretariat at the national level (human resources, materials, finances, structures, etc.)		5,304			5,304
Activity 5.1.1: Establish and strengthen national AMR multisectoral committee, AMR secretariat, and TWGs	81,592	423,805	81,592	81,592	668,580
Activity 5.1.4: Organize annual joint review meetings on the implementation of the AMR NAP operational plan		71,042	71,042		142,084
Total	770,855	8,203,454	2,667,785	281,826	11,923,921

