AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES

Pan-African Strategy for the Elimination of Rabies in Africa (PASERA)

2026-2030

The Director
African Union – Inter African Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park, Museum Hill, Westlands Road
P.O. Box 30786-00100, Nairobi, KENYA
Or by e-mail to: ibar.office@au-ibar.org

Published by AU-IBAR, Nairobi, Kenya

Foreword

Rabies remains one of the most persistent yet preventable public health threat on the African continent, causing over 21,000 human deaths annually, the majority of whom are children and populations in rural communities in Africa. Rabies is not only a public health issue but also an economic issue with annual livestock losses in Africa attributable to rabies being approximately US$ 280M resulting in a gross domestic product loss of US$ 773M. Despite the availability of effective vaccines and proven interventions, dog-mediated rabies continues to impose a significant burden on human health, animal health, and national economies across Africa.

As a transboundary zoonotic disease, rabies highlights the critical interconnectedness of human, animal, and ecosystem health. Its persistence reflects not only gaps in access to life-saving interventions such as post-exposure prophylaxis, but also the need for coordinated, sustained, and multisectoral actions across countries and regions.

The Pan-African Strategy for the Elimination of Rabies in Africa (PASERA) is a direct response to this challenge. Developed through a collaborative and African-led process, the strategy brings together African Union institutions, Regional Economic Communities, Member States, and partners to establish a unified and coordinated One-Health framework for dog-mediated rabies elimination across the continent in line with the global goal of “Zero human deaths by 2030”

PASERA is firmly anchored in the One Health approach and aligned with key continental and global frameworks, including the African Union Agenda 2063, the Animal Health Strategy for Africa, AU Zoonotic Disease Prevention and Control Strategy (2025-2029), and The Global Strategic Plan to end human deaths from dog-mediated rabies by 2030. It recognizes that isolated national efforts are insufficient to eliminate a disease that transcends borders, and that coordinated continental action is essential.

The strategy sets out clear priorities to accelerate progress, including coordinated mass dog vaccination, expanded access to post-exposure prophylaxis, strengthened surveillance and diagnostic systems, community engagement, and sustainable resource mobilization. It further emphasizes regional coordination, cross-border collaboration, and data-driven decision-making as critical enablers of success.

Beyond its public health importance, rabies elimination is a development imperative. Reducing the burden of rabies will contribute to improved livelihoods, reduced economic losses, strengthened health systems, and enhanced resilience of communities across the continent.

Together, through collective commitment, shared responsibility, and sustained investment, we can eliminate dog-mediated rabies as a public health threat in Africa and safeguard the health, livelihoods, and well-being of people and communities in Africa.

Dr. Huyam Salih
Director, AU-IBAR

Table of Contents

List of Figure and Tables

Acronyms and Abbreviations

Africa CDC	Africa Centres for Disease Control and Prevention.
AMU	Arab Maghreb Union.
ARIS	Animal Resources Information System.
AU	African Union.
AU-IBAR	African Union Inter-African Bureau for Animal Resources.
AU-PANVAC	African Union Pan-African Veterinary Vaccine Centre.
DHIS2	District Health Information Software 2.
DIB	Development Impact Bond.
DPM	Dog Population Management.
DRIT	Direct, Rapid Immunohistochemical Test (for rabies diagnostics).
EAC	East African Community.
ECCAS	Economic Community of Central African States.
ECOWAS	Economic Community of West African States.
FAO	Food and Agriculture Organization of the United Nations.
GARC	Global Alliance for Rabies Control.
GAVI	Global Alliance for Vaccines and Immunization
IGAD	Intergovernmental Authority on Development
MDV	Mass Dog Vaccination.
NAPHS	National Action Plan for Health Security.
NSP	National Strategic Plans
OH	One Health
ORV	Oral Rabies Vaccines
PASERA	Pan-African Strategy for the Elimination of Rabies in Africa.
PEP	Post-Exposure Prophylaxis.
PPP	Public-Private Partnership.
PVS	Performance of Veterinary Services.
REC / RECs	Regional Economic Community / Regional Economic Communities (includes ECOWAS, ECCAS, SADC, IGAD, EAC, AMU).
RESELAB / RESEPI	Regional Laboratory/Epidemiology Surveillance Networks
RDTs	Rabies Diagnostic Tests
RIG	Rabies Immunoglobulin.
RSC	Regional Steering Committee
SADC	Southern African Development Community.
SARE	Stepwise Approach towards Rabies Elimination.
SDGs	Sustainable Development Goals.
WOAH	World Organization for Animal Health (formerly OIE).
WHO	World Health Organization.

ToT	Training of Trainers.
UAR	United Against Rabies.
VIS	(GAVI) Vaccine Investment Strategy.
WAHIS	World Animal Health Information System
EMPRES	Emergency Prevention System

Glossary of Terms

One Health (OH)

An integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems, recognizing their interdependence. It is central to the PASERA strategy, aligning efforts across veterinary, medical, and environmental sectors to eliminate rabies.

Dog-Mediated Rabies

Rabies infections in humans and other animals arising from the transmission of rabies virus through bites or scratches, primarily by domestic dogs, which serve as the main reservoir and source of human cases in Africa.

Post-Exposure Prophylaxis (PEP)

A medical intervention (comprising wound treatment, rabies vaccination, and, where indicated, rabies immunoglobulin) administered to humans after suspected rabies exposure to prevent the onset of disease and death.

Development Impact Bond (DIB)

A financial mechanism in which investors provide upfront funding for disease elimination actions (e.g., dog vaccination), with outcome funders (often donors or governments) repaying the investment upon achievement of specific results, with risk shared among stakeholders.

Dog Population Management (DPM)

Strategies and interventions—such as vaccination, sterilization, responsible ownership promotion, and reduction of stray populations—that are implemented to control and manage free-roaming and owned dog populations, critical for achieving and maintaining rabies elimination coverage.

Regional Economic Communities (RECs)

Regional organizations in Africa—such as ECOWAS, ECCAS, IGAD, SADC, EAC, and AMU—that coordinate multisectoral public and animal health actions, surveillance, and vaccination campaigns across member countries, supporting PASERA's regional coordination pillar.

Stepwise Approach towards Rabies Elimination (SARE):

A practical, structured tool and pathway developed by the United Against Rabies (UAR) forum to guide countries through stages of rabies control, from initial assessment to sustained freedom from dog-mediated rabies.

Mass Dog Vaccination (MDV):

The strategy of vaccinating at least 70% of the dog population annually for three consecutive years (or more) in order to break rabies transmission cycles and achieve elimination as recommended by WHO and WOAH.

Direct, Rapid Immunohistochemical Test (DRIT):
A field-adapted, rapid diagnostic assay for rabies detection in animal samples, considered suitable for low-resource settings and recommended for expanding diagnostic capacity in Africa.

Rabies Immunoglobulin (RIG):
A biological product given in conjunction with vaccination as part of PEP to neutralize the virus at the site of entry in severe exposures, especially when vaccine response may not be immediate.

GAVI (Global Alliance for Vaccines and Immunization):
An international organization supporting the procurement and rollout of human rabies PEP vaccines in eligible African countries, forming a major part of the continent's PEP funding and access strategy.

RESELAB / RESEPI:
Abbreviations for regional laboratory and epidemiology surveillance networks, set up under PASERA to strengthen diagnostics, surveillance, and response systems at the regional level.

Sustainable Development Goals (SDGs):
The United Nations' global objectives, specifically referenced in PASERA for alignment of rabies elimination to broader health, economic, and development priorities in Africa.

Africa CDC (Africa Centres for Disease Control and Prevention):
A specialized technical institution of the African Union, with a leading role in One Health coordination and rabies elimination governance for the continent.

WOAH (World Organization for Animal Health)
Formerly known as OIE; an international standard-setting body for animal health, providing guidelines, laboratory support, and global coordination for rabies control in animals.

Public-Private Partnerships (PPP):
Collaborative arrangements between governments, NGOs, private industry, and/or academia to mobilize resources, expertise, and infrastructure for rabies elimination and vaccination delivery.

Human Rabies Deaths
Fatalities in humans due to Dog-Mediated rabies virus infection, which PASERA aims to reduce to zero by 2030 through coordinated interventions.

Executive Summary

The Pan-African Strategy for the Elimination of Rabies in Africa (PASERA) provides a comprehensive One Health framework to eliminate dog-mediated rabies across Africa, aligning with the global goal of zero human deaths by 2030. PASERA, developed by the African Union (AU) institutions, and AU-PANVAC in collaboration with Members States of AU, Regional Economic communities, WOAH, FAO, and key partners, designs multisectoral action plans at continental, regional, and national levels. It is grounded in the need for coordinated mass dog vaccination, improved post-exposure prophylaxis (PEP) access, robust surveillance, dog population management, and community engagement to break the cycle of disease transmission.

Rationale and burden of rabies in Africa

Rabies remains a major neglected tropical disease across Africa, causing over 21,000 human deaths annually, primarily among rural populations and children under 15, and inflicting significant livestock losses. Despite the fatality of rabies once symptoms appear, it is fully preventable through timely PEP and dog vaccination. Recent analyses show that simply expanding human PEP access will not eliminate transmission, and mass vaccination of dogs and Dog population management are vital both for public health and economic benefit. Coordinated dog vaccination is highly cost-effective, offering a return on investment of 14:1 with projected welfare gains of USD 9.5 billion over 30 years, far outweighing continued reliance on PEP alone.

Strategic Objectives

PASERA articulates seven main objectives:

- To strengthen regional and continental coordination, policy harmonization, advocacy, and political commitment for effective cross-border campaign synchronization for rabies elimination efforts across Africa.
- To strengthen integrated rabies surveillance, response systems, laboratory diagnostic capacity, harmonized data collection, risk communication, and regional laboratory collaboration for timely detection and response
- To enhance community awareness, education, and stakeholder engagement through culturally appropriate communication strategies and targeted public campaigns aimed at high-risk populations.
- To coordinate mass dog vaccination campaigns and dog population management interventions, including integration with broader animal health services and synchronized cross-border vaccination efforts.
- To expand equitable access to post-exposure prophylaxis (PEP) and integrated bite case management, with priority focus on vulnerable populations.
- To mobilize resources, with a focus on integrating rabies into health security plans, innovative funding, and partnerships with donors, foundations, and the private sector.
- To promote evidence-driven rabies elimination through operational research and digital tools to inform and evaluate strategies.

Implementation and Financing

PASERA's implementation plan establishes participatory governance through AU-led technical working groups, REC and national rabies committees, annual coordination forums, standardized protocols, and a focus on inclusive community mobilization, especially involving women and youth. The cost of continent-wide dog vaccination is estimated between USD 560–960 million, with funding strategies including upfront investment, donor partnerships, development impact bonds, and pooled vaccine procurement to maximize efficiency.

Monitoring and Evaluation A coordinated monitoring and evaluation (M&E) framework using dashboards, annual reporting at AU summits, and independent audits is planned to ensure shared accountability and transparent progress toward elimination targets.

Evidence-driven implementation, Operational Research

The research agenda includes improved diagnostics, epidemiology, vaccine innovation, digital surveillance, operational and behavioural studies, and advocacy for national budget allocation.

Risks and Opportunities

PASERA recognizes potential risks from limited funding, political instability, and coordination challenges, but leverages AU Agenda 2063, high-level institutional commitment, existing laboratory networks, donor interest, and community networks as critical strengths.

In summary, PASERA provides a unified, science-driven strategy that emphasizes dog vaccination, regional coordination, cooperation, and sustainable financing as essential components to achieving a rabies-free Africa within a generation.

Acknowledgments

This document is the outcome of a concerted and collaborative effort of African Union institutions of AU-IBAR, AU-PANVAC and Africa CDC, The Swiss Tropical and Public Health Institute (Swiss TPH), Africa One, Action for Animal Protection, Regional Economic Communities, African Union Member States and WOAH through a joint technical working group (TWG).

Outstanding recognition and appreciation are owing to all those responsible for the formulation of the Pan-African Strategy for the Elimination of Rabies in Africa (PASERA) that aims to coordinate all rabies elimination interventions and activities across the African continent. During the development of this strategy many professionals and experts from across Africa and worldwide dedicated their time and energy and contributed in one way or the other to putting this document together.

The TWG comprised Dr Huyam Salih, Dr Hiver Boussini, Prof. James Wabacha, Dr Elynn Njeri from AU-IBAR, Dr Charles Bodjo from AU-PANVAC, Dr Mary Emelife Chinenye from Africa CDC, Prof. Jakob Zinsstag from Swiss TPH, Prof. Bassirou Bonfoh from Africa One, Dr Kavosa Mudoga from Action for Protection of Animals, Dr Hassane Adakal from the Regional Animal Health Centre of ECOWAS, Dr Garga Gonne, DSV of Cameroon, Dr Vessaly Kallo DVS of Cote d'Ivoire and Dr Rodrigue Poueme Namegni from WOAH.

I especially recognize the effort of Prof. Jakob Zinsstag from Swiss TPH who led the TWG and those of other organizations for their efforts and commitment in coordinating and providing the necessary technical inputs and support to the process and ensuring that the desired results were attained.

Finally, the enthusiasm of the technical working group, the African Union Member States who took part in the exercise are acknowledged and highly appreciated. This work would not have been completed without their active participation.

Introduction

Rabies is endemic across the entire African continent and poses a significant public health threat, especially to vulnerable populations in rural areas, with over 21,000 human deaths occurring annually from dog-mediated rabies. Although a preventable disease, its impact is driven by challenges such as limited access to post-exposure prophylaxis (PEP), insufficient awareness, and gaps in control strategies, making it a neglected tropical disease requiring urgent action. International efforts, like the Global Strategic Plan to end human rabies deaths by 2030, aim to improve dog vaccination rates and increase access to life-saving treatments.

In the African continent, rabies is the largest distributed disease present in every country on the African mainland, with significant human case fatalities occurring each year, primarily from dog bites. Rabies, despite being preventable, remains a neglected tropical disease due to limited resources, fragile healthcare systems, and a lack of public awareness, disproportionately affecting vulnerable groups in rural areas.

The control of rabies in African Union member states currently poses a big challenge because of transboundary animal mobility across the continent and within regions and subregions as well as the involvement of wild animals in the disease transmission cycle. The absence of physical and geographical barriers imply that a rabid animal can cross freely without hindrance from one country to the other. The zoonotic nature of the disease requires a One-Health approach, which employs and harnesses multi-sectoral and multi-disciplinary strengths of all stakeholders, and promotes synergies across all member states, to be effective in putting an end to rabies in the continent by the year 2030, which is the globally determined target date for elimination of dog-mediated rabies, as agreed by global partners namely, WOAH, FAO and WHO.

This Pan-African Strategy for the Elimination of Rabies in Africa (PASERA) aims to address the challenges that impact negatively on the control and elimination of dog-mediated rabies in the African continent. The PASERA is aligned to the Animal Health Strategy for Africa (AHSA), the Africa Health Strategy (2016-2030), The Global Strategic Plan to eliminate human deaths from dog-mediated rabies by 2030 launched by the United Against Rabies collaboration as well as the recently launched AU One Health Zoonotic Disease Strategy (2025-2029). PASERA further provides more focused strategic interventions and approaches to address human and animal health in a holistic manner in the context of the One Health (OH) approach. It also aims to harmonize delivery of animal and human health services on rabies elimination in the continent with relevant global, continental, and regional strategies and frameworks thereby serving as an overarching strategy to enhance efficiency and effectiveness of rabies elimination efforts in the continent.

The successful implementation of PASERA will require community-based programs focussing on (i) mass dog vaccination programs, public awareness campaigns, and improving access to PEP, (ii) broader partnerships from governments, international organizations such as WOAH, FAO, WHO, and NGOs to support the implementation of control and elimination strategies across the continent, (iii) resource mobilization and funding with significant investments to provide post-exposure prophylaxis and improve dog vaccination coverage, and (iv) integrated approach for concerted and coordinated efforts required from governments,

international organizations, and local communities to improve awareness, access to care, and rabies control strategies to achieve elimination.

Rationale and Burden of Rabies in Africa

Rabies poses a devastating impact on both human and animal health in African countries, causing around 21,476 human deaths annually, primarily from dog bites, with vulnerable populations in rural areas being most affected. The disease leads to severe neurological damage and is invariably fatal once symptoms appear. For animals, rabies is also a fatal disease and a significant animal health problem, contributing to large numbers of animal outbreaks. Poor access to post-exposure prophylaxis (PEP) and a lack of robust control programs contribute to the high disease burden, which also has considerable financial implications for affected families and public health systems.

Impact on Animal Health

In Africa, the annual livestock losses attributable to rabies are approximately US$ 280,000,000 resulting in a gross domestic product loss of US$ 773,000,000. In wildlife, rabies outbreaks mainly originate from encounters with livestock grazing around national parks and during illegal wildlife hunting. People get infected following a bite or scratch by a rabid animal. About 80% of human cases occur in rural areas, and over 40% of rabies deaths occur in children (primarily boys) aged less than 15 years.

Recent study commissioned by AU-IBAR in 2022 on the level of preparedness of African countries to control and eliminate rabies by 2030 highlighted that rabies is a significant animal health issue, contributing to a high number of reported animal disease outbreaks in Africa affecting various mammals, including domestic dogs, jackals, and mongoose, act as reservoirs for the rabies virus. The disease is also fatal in most infected mammals, and the disease can spread rapidly through animal populations with high economic and social Impact. Indeed, the disease affects the livelihoods of people and can disrupt communities, particularly in areas with large livestock populations and close interactions between humans and animals.

The main challenges and solutions include (i) poor surveillance especially on data collection and reporting on rabies cases in many African countries, hindering efforts to understand and control the disease (ii) limited resources with lack of sustainable financial and political commitments for rabies eradication programs (iii) cultural factors mainly cultural perceptions and traditional beliefs which can sometimes delay access to essential medical treatment, impacting the effectiveness of control measures as well as (iv) Dog Population Management (DPM) and enforcement of legislation and law.

Impact on Human Health

Africa experiences a large proportion of global human rabies deaths, preceded only by Asia, primarily from dog-mediated rabies. The disease disproportionately affects marginalized and poor populations in rural areas which is exacerbated by the high cost of Post-Exposure Prophylaxis (PEP) leading to preventable deaths. Therefore, the catastrophic financial costs, along with the loss of productivity from premature death, place a heavy burden on families and the broader economy.

In 2025 the Global Vaccine Alliance (GAVI) implemented its rabies vaccine investment strategy (VIS) in selected first adopter countries. More than one hundred years after the invention of post-exposure prophylaxis (PEP) by Louis Pasteur, all eligible countries to GAVI initiative will have free access to PEP vaccines to cover their needs. The implementation has been delayed for more than two years because of the COVID pandemic. GAVI will thus contribute to fill a gap that still causes the lives of over 25'000 people, mostly children in Africa, every year. This sheds a daunting light on the implementation gap of science per se, as well as equitable access. As in many parts of Africa, rabies exposed patients still have no access to live-saving PEP due to limited availability, high costs of vaccines, and huge household expenses. GAVI's engagement together with countries is remarkable because it may significantly contribute to closing the gap on inequitable access and reach the goal of zero human rabies by 2030. However, this requires a massive and rapid effort in planning and coordination by eligible countries as well as GAVI to have a chance to reach the "Zero by 2030" goal.

Impact of rabies control on African economy

Even if all human rabies-exposed patients in Africa will have timely access to PEP through GAVI's VIS strategy, the problem of rabies transmission is not solved. This is because rabies transmission between dogs, the most important reservoir of rabies, is not affected by PEP in humans. If rabies continues to be transmitted, in a mostly endemic situation, the cumulative cost of PEP for the next thirty years is estimated at USD 500-600 million only for Africa. A recent strategy analysis shows that strategic mass dog vaccination (MDV) coordinated within and between countries together with PEP would lead to the elimination of dog rabies in Africa with total welfare gains of USD 9.5 billion (95% CI: 8.1 – 11.4 billion) between 2024 and 2054 (30 years). A coordinated MDV is highly profitable with a return on investment (ROI) of 14/1. Welfare gains can reach up to 2.5% of the Gross Domestic Product (GDP) (Figure 1) in selected countries. Coordinated rabies control between African countries can lead to more socially and ecologically equitable outcomes by reducing the number of lost human lives to almost zero and possibly eliminating rabies.

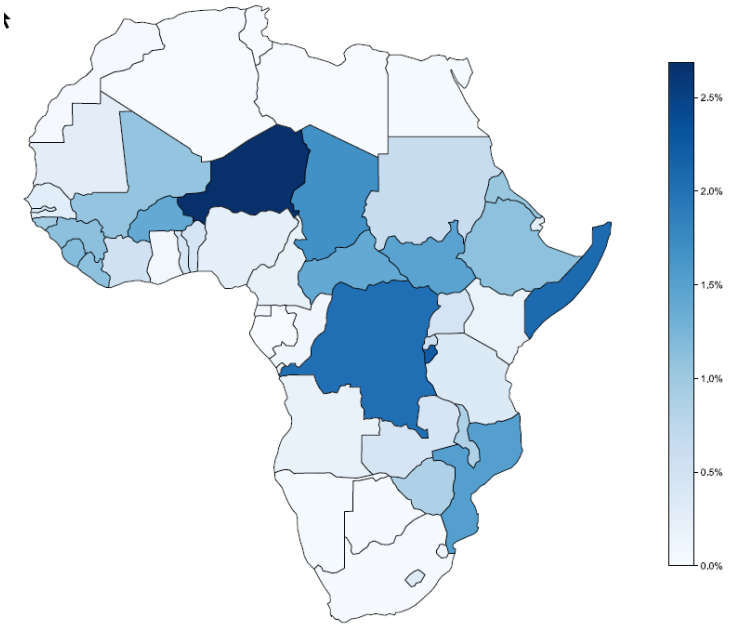


Figure 1: *Relative gain in billion USD per country as a percentage of the corresponding GDP. This figure represents the difference between the cooperative profile's and the baseline's payoffs between 2024–2054 (30 years) in % of the expected 2024 GDP. (Reproduced with permission from Nature Communications) ecologically equitable outcomes by reducing the number of lost human lives to almost zero and possibly eliminating rabies.*

Most dogs in Africa are free roaming but owned and, thus, accessible to vaccination. In addition to parenteral vaccines, oral vaccination of dogs can even significantly increase the vaccination coverage rate and speed up control measures. Safe, effective, and affordable rabies vaccines for dogs, developed according to World Organization of Animal Health (WOAH) standards, are available. Based on solid research evidence and following the example of the global elimination of Rinderpest in 2011, the elimination of dog rabies in Africa appears to be feasible by Africa-wide coordination and the learning could inspire other zoonotic disease elimination strategies.

Engagement of the institutions of the African Union

The engagement of the animal health sector, led by AU-IBAR, is now complemented by Africa CDC's leadership of the AU One Health Coordination group on zoonotic diseases. Taking up Margaret Chan's statement in 2015: "Let us make rabies history" and joining forces to prioritize rabies elimination aligned to the aspirations of AU Agenda 2063: The Africa We Want. This is in line with the One Health Joint Plan of Action (OHJPA) action track 3 of the Quadripartite (WHO-FAO-WOAH-UNEP) supported by the One Health High-Level Expert Panel (OHHLEP). Thus, all tools are available to still reach the ambitious goal of 'Zero by 30'. However, it requires rapid action for coordination, cooperation, communication, and capacity building in a One Health environment to be successful for the sake of human and animal health and livelihoods. The Africa Union's technical agencies are strengthening One Health coordination and harmonization of efforts across AU member states for effective rabies elimination, through the AU One Health Strategy for Zoonotic Disease Prevention and Control. Leveraging the AU's convening power, Africa CDC and AU-IBAR advocate for political support for One Health coordination at continental, regional and national, levels to improve countries' ability to eliminate rabies by 2030. The Pan-African Rabies Elimination Strategy (PASERA) has been prepared by a technical working group comprising of the Inter-African Bureau for Animal Resources (AU-IBAR), the Pan-African Vaccine Control (PANVAC), the Africa CDC, Regional Economic Communities and AU member states for the benefit of the African people, mostly children. Swot Analysis (Annex 2)

Guiding Principles

Principles of subsidiarity, solidarity and complementarity based on mandate and comparative advantage.

Transparency and mutual accountability for results, actions, and information sharing.

Partnerships, coordination, and collaboration at national, regional, continental, and international levels with regional, sub-regional and cross-border cooperation to reinforce timely information sharing and coordinated interventions.

Respect for biodiversity, in line with international and global agreements.

Professionalization of animal health care at all levels.

Continental ownership and leadership, with AU institutions coordinating and ensuring that all interventions by partners are in line with relevant continental guidelines.

Dynamic and adaptive in responses to emerging issues.

Vision of PASERA

The vision of PASERA is to eliminate dog mediated rabies on the African continent by 2030 by a coordinated mass vaccination of dogs under the leadership of the African Union (AU), AU MSs, RECs with support from partners.

Strategic objectives

Objective 1: To strengthen regional and continental coordination, policy harmonization, advocacy, and political commitment for effective cross-border campaign synchronization for rabies elimination efforts across Africa

PASERA aims to foster strong regional coordination, collaboration, and information sharing. Rabies is a transboundary disease; therefore, a coordinated, collaborative approach to mass dog vaccination is essential for eliminating rabies across Africa, especially in areas where countries share borders and animals and people movement is frequent. In addition to animal and people movement, there are often shared public health challenges in bordering countries, such as inadequate healthcare access, limited resources, and similar socio-economic factors. A regional coordinated approach to rabies elimination would allow for more efficient use of limited resources, promote mutual learning, and enable joint efforts to address these common challenges.

Under the leadership of AU, regional bodies including Economic Community of West African States (ECOWAS), Economic Community of Central Africa States (ECCAS), East African Community (EAC), Intergovernmental Authority on Development (IGAD), Southern African Development Community (SADC) and Arab Maghreb Union (AMU) will play a pivotal role by coordinating actions, strengthening cross borders partnerships and ensuring that rabies is included as a regional health priority in order to set regional task-forces and technical committees, shared surveillance and data systems, joint rabies vaccination campaigns, information and resource sharing, regional advocacy and policy development. This coordination at continental and regional levels ensures that no country is left behind in the fight against rabies, and that control measures are applied effectively, across borders, to prevent outbreaks.

Objective 2: To strengthen integrated rabies surveillance, response systems, laboratory diagnostic capacity, harmonized data collection, risk communication, and regional laboratory collaboration for timely detection and response.

The strategy will strengthen regional surveillance to allow for:

Coordinated regional surveillance which provides a unified approach to rabies monitoring and control, ensuring consistent data collection, reporting, and response across borders.

Timely outbreak detection in regions where rabies cases are linked across countries, early identification of outbreaks can trigger rapid cross-border responses, preventing the spread of the disease.

More efficient resources are used by coordinating surveillance efforts whereby countries share resources, data, and expertise, maximizing the impact of control measures while minimizing costs.

In this context, the strategy will establish regional surveillance networks (RESELAB, RESEPI), harmonize surveillance standards and protocols, facilitate cross-border data sharing and communication, strengthen cross-border rabies detection and investigation, implement joint rabies surveillance and control programs, leverage technology for real-time surveillance and mapping and foster regional capacity building and knowledge sharing.

Objective 3: To enhance community awareness, education, and stakeholder engagement through culturally appropriate communication strategies and targeted public campaigns aimed at high-risk populations.

The strategy aims to increase community awareness and education and scale up education campaigns tailored to local contexts to change behaviours', build trust in public health systems, and promote community participation in rabies control efforts by:

Supporting and promoting the development of culturally appropriate education materials such as visual, audio, and digital content in local languages, using culturally relevant metaphors and examples to explain how rabies is transmitted, prevented, and treated:

Leveraging multiple communication channels including community radio, television, mobile messaging, social media, and drama groups to reach different audience segments in rural, urban, youth, and illiterate populations.

Targeting high-risk groups by focusing awareness campaigns on school children (who are among the most frequent bite victims), dog owners, community leaders, and healthcare workers to amplify key messages and promote safe practices.

Fostering ownership by engaging political and cultural leaders to enable communities to become proactive agents in surveillance, dog vaccination campaigns, bite reporting, and public education.

Objective 4: To coordinate mass dog vaccination campaigns and dog population management interventions, including integration with broader animal health services and synchronized cross-border vaccination efforts.

The core of PASERA is coordinated mass dog vaccination between countries. The transmission of dog rabies and its subsequent transmission to humans and livestock and other animals can be interrupted if a vaccination coverage of 70% can be achieved. To avoid the re-introduction of dog rabies into previously vaccinated areas, mass dog vaccination campaigns should be coordinated within and between countries.

Mass dog vaccination will start in countries with geographical barriers like oceans, deserts or mountains (i.e. Mauritania, South Africa). Coordination with neighbouring countries prevents re-introduction and allows subsequent systematic enlargement of rabies free areas (Figure 3).

Objective 5: To expand equitable access to post-exposure prophylaxis (PEP) and integrated bite case management, with priority focus on vulnerable populations.

Expanded and equitable human rabies PEP services and integrated bite case management, prioritized for vulnerable populations are introduced at the level of every country. It makes use of the rabies Vaccine Investment Strategy (VIS) or the Global Vaccine Alliance (GAVI). Gavi, in collaboration with partners, supports human rabies vaccines for post exposure prophylaxis (PEP) as part of routine immunisation. Eligible countries are receiving guidance on how to access these vaccines under Gavi's cofinancing policy[1].

Objective 6: To mobilize resources, with a focus on integrating rabies into health security plans, innovative funding, and partnerships with donors, foundations, and the private sector

The costs of rabies elimination in Africa is between 560 – 960 Million. The strategy therefore aims to secure sustainable funding and resources to ensure that rabies control efforts are not only effective but also scalable and sustained until the disease is eliminated. The strategy includes key actions to sustain funding and resources for rabies elimination in Africa such as:

Advocate for Integration of rabies control into National Action Plan for Health Security (NAPHS to ensure that rabies elimination becomes a priority in national health and development policies, and secure long-term government support. Therefore it is critical to work with RECs, governments to integrate rabies control and elimination into national health strategies and One Health frameworks, ensuring that rabies is considered a part of routine public health and veterinary services, to advocate for dedicated budget lines for rabies prevention and control within national health budgets to avoid reliance on short-term project funding and to leverage international health goals, such as the Sustainable Development Goals (SDGs), to align rabies control with broader global health priorities.

Engage with International donors and foundations to secure additional financial support through international donors and foundations, ensuring the availability of resources for large-scale vaccination campaigns and research through strengthened partnerships with organizations like the Global Fund, GAVI, Bill & Melinda Gates Foundation, and WHO, to mobilize funds for rabies control.

Encourage Public-Private Partnerships (PPPs) to foster collaborations between governments, NGOs, private sector companies, and academic institutions to pool resources and expertise for rabies elimination and develop partnerships with pharmaceutical companies that produce rabies vaccines and immunoglobulins, ensuring affordable and consistent access to these critical resources (e.g. WOAH vaccine bank)

[1] *https://www.gavi.org/news/media-room/gavi-boost-access-life-saving-human-rabies-vaccines-over-50-countries#:~:text=%E2%80%9CGavi%27s%20investment%20is%20hugely%20important,org/our-support/guidelines*

Promote Innovative financing mechanisms to explore and implement new financing mechanisms that support rabies control and ensure the sustainability of efforts and seek opportunities for crowdfunding and community-driven fundraising to complement traditional funding sources, leveraging the public's interest in rabies prevention.

Strengthen resource allocation and efficiency to ensure that available resources are used efficiently, minimizing waste, and maximizing impact in rabies control programs.

Promote national and regional resource mobilization to build national and regional financial resilience, reducing dependency on international donors and ensuring self-sufficiency in rabies elimination efforts.

Develop a long-term sustainability plan to ensure that rabies control efforts continue beyond initial funding periods, contributing to the long-term goal of rabies elimination through a sustainability framework for rabies control programs, an exit strategy for donor-funded programs, ensuring that government systems can take over once initial funding phases end and the establishment of national rabies control funds to ensure a stable and continuous source of funding for rabies programs.

Objective 7: To promote evidence-driven rabies elimination through operational research and digital tools to inform and evaluate strategies

Operational research aims to support a robust research agenda that is African-led and context-specific, which can address critical gaps in operational research, locally relevant data, access to tools, and innovative approaches, can accelerate and sustain elimination efforts, generate the evidence, technologies, and strategies needed to enhance rabies prevention, surveillance, and response across the continent. The strategy will therefore:

Establish rabies regional research hubs to coordinate rabies-related research, offer training, and foster collaboration among academic institutions, public health authorities, and veterinary services, Promote south-south collaboration through peer learning and innovation exchange between African countries facing similar challenges and successes, Leverage public-private partnerships by engaging the private sector, start-ups, and NGOs in developing and piloting novel tools and technologies for rabies control, Secure dedicated funding through advocacy for increased investment from governments, donors, and global health partners to support research and innovation specific to African rabies elimination goals.

The research agenda supported by the strategy will cover several key Areas for research and innovation such as:
Improved rabies diagnostics to develop affordable, accurate, and field-deployable diagnostic tools to confirm rabies in animals and humans, especially in remote areas where laboratory capacity is limited and evaluate rapid diagnostic tests (RDTs) and point-of-care technologies to improve case detection and inform timely responses.

Epidemiological and operational research to generate high-quality, disaggregated data on rabies incidence, dog population dynamics, bite case burden, and PEP access, to conduct studies on the effectiveness and efficiency of mass dog vaccination strategies, including cost-benefit analyses and alternative delivery models, to explore the role of wildlife reservoirs and their contribution to rabies maintenance in specific ecosystems.

Vaccine innovation and supply chain Solutions to encourage local or regional production of quality-assured rabies vaccines and immunoglobulin to reduce dependence on external suppliers and improve access.

Digital tools for surveillance and mapping to Innovate data collection tools (e.g., mobile apps, GIS systems, real-time dashboards) for rabies surveillance, vaccination coverage tracking, and bite case management, to utilize digital platforms to link veterinary and human health sectors under a One Health framework, enabling faster cross-sectoral response.

Socio-behavioural and anthropological research to investigate cultural beliefs, traditional practices, and behavioural drivers related to rabies prevention, care-seeking, and dog ownership to design and test communication strategies that address misconceptions and promote behaviour change in different communities.

Public Health and policy research to assess the integration of rabies control into primary health care, national disease programs, and One Health strategies; evaluate policy frameworks to identify gaps, enforcement challenges, and opportunities for legislative reform, to Assess control programs costs and efficiency

Implementation and Financing of the strategy

The implementation strategy of PASERA will reflect a growing momentum across the continent, with increased political commitment, intersectoral collaboration, and gradual progress toward the 2030 goal of zero human deaths from dog-mediated rabies. This strategy prioritizes a coordinated One Health approach, emphasizing mass dog vaccination, access to post-exposure prophylaxis (PEP), effective surveillance, responsible dog population management, and community awareness. At the national level, countries will implement key components of the strategy by developing, reviewing, and implementing updated and aligned rabies national strategic plans (NSP). Regionally, the implementation will be enhanced through harmonized monitoring frameworks and cross-border coordination, data sharing and synchronized campaigns in border areas. Capacity-building efforts supported by regional bodies and international partners such as United Against Rabies stakeholders will focus on training, M&E systems, and the use of digital tools to track progress.

Vaccination implementation strategy

Control strategies in dogs rely on mass vaccination to interrupt transmission, provided that at least 70% of the population is covered and that this rate is maintained. Complementary measures include responsible dog ownership, improved dog population management, community awareness campaigns, and prompt post-exposure prophylaxis (PEP) for exposed individuals.

The parenteral and oral vaccines are the two main categories of vaccines used for animals' vaccination. The parenteral vaccination remains the predominant tool used for dogs' vaccination. The Oral rabies vaccines (ORV) are used in some specific contexts for wildlife animal, where parenteral vaccination is impractical. Oral vaccination campaigns have proven highly successful in Europe and North America, contributing to the elimination of rabies in foxes and raccoons. Their complementary role is increasingly recognized in Africa and Asia for controlling rabies in free-roaming dog populations and wildlife reservoirs.

In Africa, the success of rabies control in dogs depends on the availability of high-quality, affordable vaccines. In this regard, the African Union Pan-African Veterinary Vaccine Centre (AU-PANVAC), as mandated by the African Union (AU) to serve as the continental body for the independent quality control of veterinary vaccines, plays a pivotal role. AU-PANVAC is further recognized by the World Organisation for Animal Health (WOAH) and the Food and Agriculture Organization of the United Nations (FAO) as a reference centre for veterinary vaccine quality assurance in Africa. Through its certification system, AU-PANVAC ensures that only vaccines that comply with international standards are deployed in the field, thereby safeguarding the effectiveness of rabies eradication programmes across the continent. Ensuring the quality of dog rabies vaccines through AU-PANVAC certification is critical to achieving reliable immunization outcomes and sustaining progress towards the global goal of eliminating dog-mediated human rabies deaths by 2030, in line with the quadripartite (WHO, WOAH, FAO and UNEP) "One Health" strategy.

The control strategy will also depend on a strong coordination among veterinary services, public health authorities, and local communities as rabies is a transboundary zoonotic disease. One single country cannot eliminate rabies without the risk of its re-introduction from the neighbouring countries. Hence, Africa-wide coordination and a regional coordination approach are needed.

The mass dog vaccination will be integrated with other veterinary services, such as peste des petits ruminants (PPR) vaccination in the context of the AU Pan-African programme for PPR eradication, parasite control and routine veterinary care, to increase the reach and sustainability of rabies prevention programs.

The continental strategy will be a gradual and concentric approach, involving countries from Group 1, Group 2, and Group 3. Group 1 countries are those on the periphery of the continent, which will initiate efforts to achieve an acceptable level of control. Group 2 will include continental countries, particularly those in the Sahelian belt. Intervention for the Group 3 will be undertaken by countries of the middle part. High coordination and collaboration at regional levels (between RECs) and continental level (AU-IBAR, Africa CDC) are required to accomplish the gold goal.

Figure 2: *Scenario of a possible spatio-temporal dynamic of dog mediated rabies elimination in Africa.*

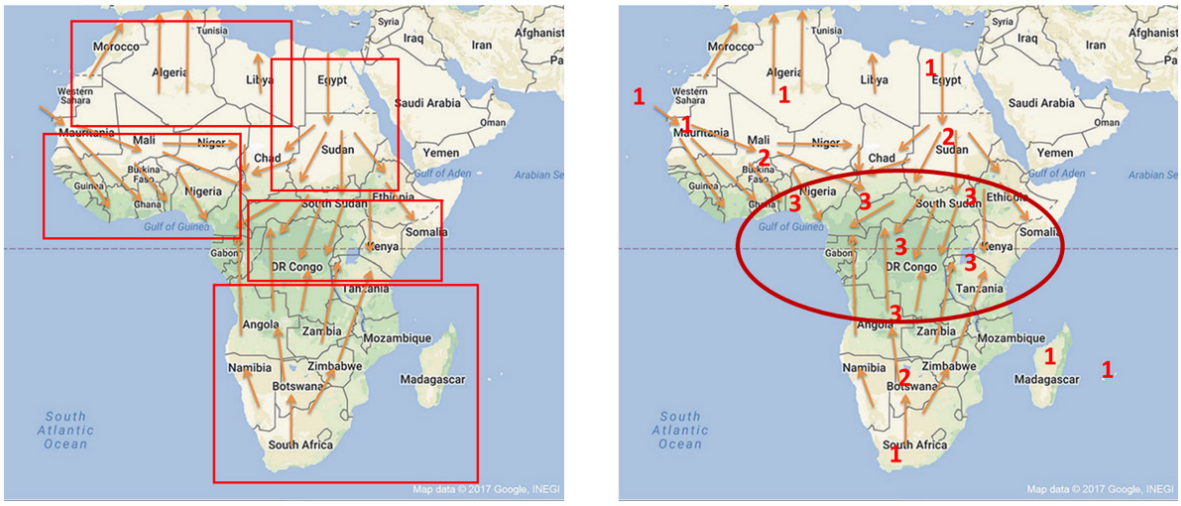


Figure 3: *a) Spatial regional and b) temporal coordination of PASERA*

Human rabies Post-Exposure Prophylaxis (PEP) Services and integrated bite case management

The strategy also aims to strengthen PEP system to ensure not only survival of exposed individuals but also increases community trust in the health system, encourages timely health-seeking behaviour, and contributes to more accurate rabies surveillance by linking human exposure data with veterinary investigations. The overall goal of this strategic objective is to ensure that rabies vaccines and, where indicated, rabies immunoglobulin (RIG) are available and affordable to all at-risk populations. The strategy will support and advocate for affordability and sustainable financing to eliminate financial barriers that prevent timely access to PEP through donor funded programs such as GAVI initiative, government-funded PEP programs as part of essential healthcare services, standardized PEP protocols and integrated PEP Services into One Health Surveillance Systems.

Stepwise approach to rabies elimination (SARE)

At National level, the stepwise Sustainable Approach to Rabies Elimination (SARE) approach can be adopted with a systematic coordination with neighbouring countries (Figure 4). The SARE is proposed at the country level as a practical planning, monitoring and evaluation tool to guide, develop and refine national strategic rabies control plans. Based on the One Health approach, the principles pursued require: high-level political will and commitment, confidence in achieving common goals and priorities, sharing of benefits at all levels, and strong governance involving strict enforcement of the legislative framework and international norms and standards.

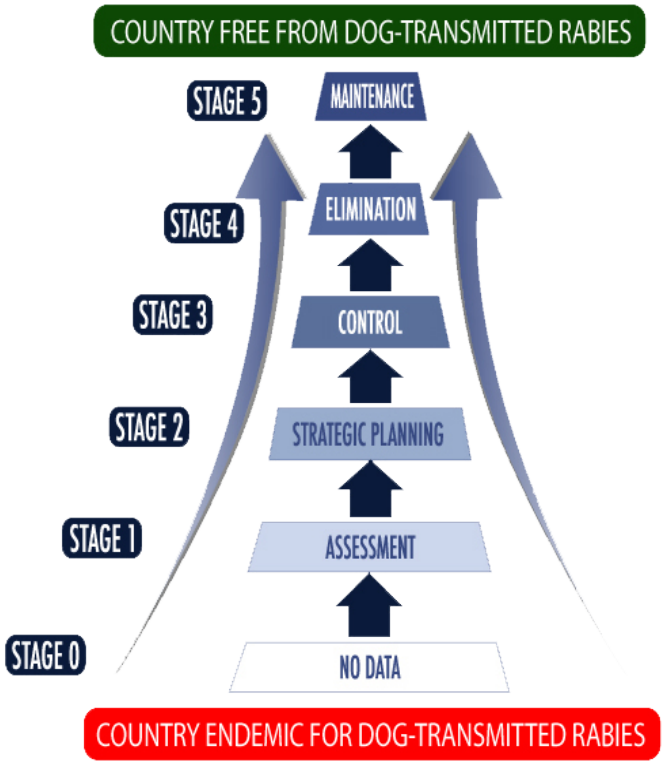


Figure 4: *Stepwise approach to rabies elimination (SARE) at national level.*

Financing of the Strategy

PASERA's implementation plan establishes participatory governance through AU-led technical working groups, REC and national rabies committees, annual coordination forums, standardized protocols, and a focus on inclusive community mobilization, especially involving women and youth. The cost of continent-wide dog vaccination is estimated between USD 560–960 million, with funding strategies including upfront investment, donor partnerships, development impact bonds, and pooled vaccine procurement to maximize efficiency.
Governance and Partnership

PASERA Governance Structure

The African Union Technical Agencies dealing with animal and human health (AU-IBAR and Africa CDC) together with the World Organization for Animal Health (WOAH); the Food and Agriculture Organization of the United Nations (FAO); World Health Organization including other technical partners, are all working in partnership for the control of zoonotic disease in Africa. The implementation of the Pan-African Strategy for the Elimination of Rabies in Africa (PASERA) will be conducted under the AU One Health Coordination Group which is domiciled at AUC. The AU One Health Coordination Group on zoonotic diseases will serve as the primary coordinator for PASERA on the continent, serving as a platform that supports the work of Member States, RECs, UN agencies, and other organizations. The formal engagement of Member States, RECs, and UN agencies by the AU One Health Coordination Group on zoonotic diseases will involve various modalities designed to ensure effective collaboration, information sharing, and a balance between top-down leadership and bottom-up insights. These modalities include regular review meetings and consultations. The coordination group prioritizes continentwide efforts to increase political commitment, mobilize resources, and promote policies that improve zoonotic disease prevention and control across human, animal, and environmental health sectors.

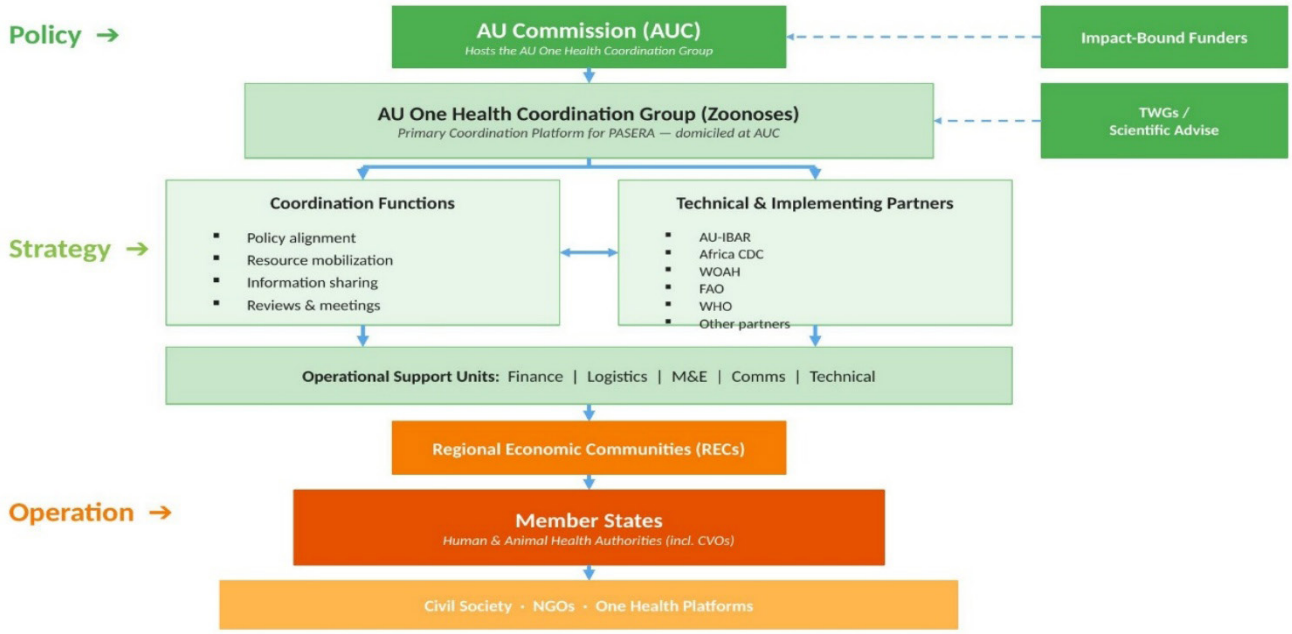


Figure 5: *PASERA Governance structure.*

Key stakeholders of the PASERA implementation

Continental and Regional Steering Committees (RSC) will be established to contribute to the coordination mechanism, advocacy, and reporting. The RECs will be responsible for planning and organizing Regional Roadmap meetings and events in their respective regions.

At the national level, each country will support the establishment of a national rabies elimination committee with representation from a wide spectrum of stakeholders. A rabies national coordinator and/or platform will oversee the revision and implementation of the national strategic plan (NSP) of Rabies Elimination

As part of its prerogative of the implementation and to safeguard the financial interests and resource mobilization of the Union, the Commission may participate in the above governance structures set up for governing the implementation of the action and may sign or enter into joint declarations or statements, for the purpose of enhancing the visibility of donors and its contribution to this action and ensuring effective coordination.

Table 1: *Key stakeholders of the PASERA*

Stakeholders	Responsibilities
AU Commission	• Pan African strategy and Resource mobilisation • Inter-RECs coordination, communication
AU-IBAR/PANVAC/Africa CDC	• Coordinated approach/ Quality control • Capacity development (workforce, resources) • Support harmonisation of policies, regulations, standards • Provision of central capacity M&E (Blockrabies??)
AU member States	• Implementation of the national strategy (based on SARE) • Share data, information, experience and capacity • **Operationalization of mass dog vaccination** • Leverage local resources
RECs	• Capacity strengthening/ Leverage regional resources • Support harmonisation of policies, regulations, standards • Inter-REC (Pan African) coordination around the intervention zones
Academia and research centres	• Evidence for the strategy development (Burden, population, M&E)
Development and technical partners (e.g. Quadripartite)/ GARC/PARACON	• Reduce transaction cost • Collaborative initiative (JPA)
Financial partners (e.g. Impact Bund Fund)	• Funding the strategy based on the return on investment • Global partnership for mutual benefits
NGOS, Dog owners and general public	• Engagement, advocacy, awareness, communication • Improve animal welfare

Participatory Governance and Community Engagement at Country Level

Role: Ensure the acceptability, adherence, and sustainability of the plan.

Involvement of local communities, traditional and religious leaders in risk communication and stray dog management, participatory operationalization of mass vaccination.

Use of community networks for rapid reporting of bite cases and mobilization during mass vaccination campaigns.

Gender approach: integrate women/children as key stakeholders in community education and mobilization.

References

1. Hampson, K. et al. Estimating the global burden of endemic canine rabies. PLoS neglected tropical diseases 9, e0003709 (2015). https://doi.org/10.1371/journal.pntd.0003709
2. Hampson, K., Trotter, C. & Consortium, W. H. O. R. M. The potential effect of improved provision of rabies post-exposure prophylaxis in Gavi-eligible countries: a modelling study. Lancet Infectious Diseases 19, 102-111 (2019). https://doi.org/10.1016/s1473-3099(18)30512-7
3. Bucher, A., Dimov, A., Fink, G., Chitnis, N., Bonfoh, B., Zinsstag, J. Benefit-cost analysis of coordinated strategies for control of rabies in Africa. Nature communications 14, 5370 (2023). https://doi.org/10.1038/s41467-023-41110-2
4. FAO, U., WHO, and WOAH,. One Health Joint Plan of Action (2022-2026) Working together for the health of humans, animals, plants and the environment. (Food and Agriculture Organization of the United Nations, Rome, 2022).
5. Hampson, K. et al. Estimating the global burden of endemic canine rabies. PLoS neglected tropical diseases 9, e0003709 (2015). https://doi.org/10.1371/journal.pntd.0003709
6. Mindekem, R. et al. Cost Description and Comparative Cost Efficiency of Post-Exposure Prophylaxis and Canine Mass Vaccination against Rabies in N'Djamena, Chad. Front Vet Sci 4, 38 (2017). https://doi.org/10.3389/fvets.2017.00038
7. Anyiam, F. et al. Cost-estimate and proposal for a development impact bond for canine rabies elimination by mass vaccination in Chad. Acta Trop 175, 112-120 (2017). https://doi.org/10.1016/j.actatropica.2016.11.005
8. Lankester, F. et al. An integrated health delivery platform, targeting soil-transmitted helminths (STH) and canine mediated human rabies, results in cost savings and increased breadth of treatment for STH in remote communities in Tanzania. BMC Public Health 19, 1398 (2019). https://doi.org/10.1186/s12889-019-7737-6
9. Mbaipago, N. et al. Rabies knowledge and practices among human and veterinary health workers in Chad. Acta Tropica 202, 105180 (2020). https://doi.org/https://doi.org/10.1016/j.actatropica.2019.105180
10. Mbilo, C. et al. Dog rabies control in West and Central Africa: A review. Acta Tropica, 105459 (2020). https://doi.org/https://doi.org/10.1016/j.actatropica.2020.105459
11. Consortium, W. H. O. R. M. The potential effect of improved provision of rabies post-exposure prophylaxis in Gavi-eligible countries: a modelling study. Lancet Infect Dis 19, 102-111 (2019). https://doi.org/10.1016/S1473-3099(18)30512-7
12. Hampson, K. et al. Transmission Dynamics and Prospects for the Elimination of Canine Rabies. PLOS Biology 7, e1000053 (2009). https://doi.org/10.1371/journal.pbio.1000053
13. Mauti, S., Léchenne, M., Mbilo, C., Nel, L., Zinsstag, J. in Transboundary animal diseases in sahelian Africa and connected regions (ed M. Kardjadj, Diallo, A., Lancelot, R.) 107-120 (Springer, 2019).
14. Mindekem, R. et al. Cost Description and Comparative Cost Efficiency of Post-Exposure Prophylaxis and Canine Mass Vaccination against Rabies in N'Djamena, Chad. Front Vet Sci 4, 38 (2017). https://doi.org/10.3389/fvets.2017.00038

15. Kayali, U., Mindekem, R., Hutton, G., Ndoutamia, A. G. & Zinsstag, J. Cost-description of a pilot parenteral vaccination campaign against rabies in dogs in N'Djamena, Chad. Tropical medicine & international health : TM & IH 11, 1058-1065 (2006).
16. Muthiani, Y., Traore, A., Mauti, S., Zinsstag, J. & Hattendorf, J. Low coverage of central point vaccination against dog rabies in Bamako, Mali. Prev Vet Med 120, 203-209 (2015). https://doi.org/10.1016/j.prevetmed.2015.04.007

ANNEXES

Annex 1: PASERA Activities and partner's roles and responsibilities

Action	Activity	Task	Responsible	Timeline
1. To strengthen regional and continental coordination, policy harmonization, cross-border campaign synchronization, advocacy, and political commitment for effective rabies elimination efforts across Africa.	Creation of a Continental Technical Working Group on Rabies (under the leadership of the African Union,)	-Organize a launch meeting -Organize two annual continental coordination meetings	AU (IBAR, Africa-CDC), Partners	2026
	Creation of a One Health coordination platform for rabies at the level of Regional Economic Communities (RECs) (human health, animal health, wildlife)	Organize two annual regional coordination meeting	AU, ECOWAS, ECCAS, SADC, EAC, IGAD AMU	2026
	Mapping of ongoing national initiatives to identify synergies and gaps	-One consultation per REC (total: 4) -Four validation workshops and roadmap development	ECOWAS, ECCAS, SADC, EAC, IGAD, AMU	Zone 1, 2 et 3: 2026
	Support for national and sub regional rabies control plans (drafting, revising, validating, and endorsing national strategic plans) and development of regional roadmaps	Four regional workshops for plan alignment and endorsement training	ECOWAS, ECCAS, SADC, IGAD, EAC, AMU	Zone 1, 2, 3: 2026
	Annual Pan-African Rabies Forum (progress reports, sharing of best practices, political engagement)	Organize one forum per REC	ECOWAS, ECCAS, IGAD SADC, EAC, IGAD, AMU	Zone 1, 2, 3: 2026
	Standardization of regional guidelines and SOPs (vaccination campaigns, surveillance, human and animal case management, development of harmonized indicators)	Create expert groups per REC to harmonize guidelines and develop manuals and SOPs	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zone 1, 2, 3: 2026
	Annual continental campaign for World Rabies Day (28 September)	-Annual continental conference -Support for various campaigns (awareness tools, vaccines, etc.)	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zones 1, 2, 3: 2026
	High-level advocacy briefings for ministers of health and agriculture/animal health (AU,)		ECOWAS, ECCAS, IGAD, SADC, EAC, GAVI initiative	2026-2027

	Development of advocacy briefs for parliamentarians, decision-makers, and donors	Three workshops (one per zone) for drafting and validation	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zones 1, 2, 3 : 2026
	Integration of rabies into national One Health programs and priority zoonotic disease action plans	-Annual continental One Health meeting -Regional workshops to raise awareness among education authorities for integration into curricula	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zone 1 : 2026 Zones 2 et 3 : 2027

Action	Activity	Task	Responsible	Timeline
2.To strengthen integrated rabies surveillance, response systems, laboratory diagnostic capacity, harmonized data collection, risk communication, and regional laboratory collaboration for timely detection and response.	Regional Training of Trainers (ToT) (RESEPI, RESELAB)	Four regional workshops: ● Epidemiological surveillance and bite management ● Laboratory diagnostics (virology, molecular biology) ● Risk communication	AU, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zone 1 : 2026 Zones 2 et 3 : 2027
		Encouraging participation in certified online rabies training modules (with GARC or WHO) accessible to community health workers and technicians	AU, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	
		South-South exchange missions between pilot countries and slower-starting countries for sharing experiences: One mission per region	AU, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	
	Strengthening of regional rabies diagnostic laboratory networks (reference labs)	-Laboratory twinning with rabies laboratory networks (RABLAB) -Four regional capacity-building workshops for laboratory staff (ToT)	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	
	Deployment of rapid diagnostic kits in the field (DRIT or LFD tests)	Acquisition and distribution to countries	Countries	

	Mobile application for reporting suspected cases (participatory surveillance, e.g., Rabies App)	Identify digital tools by country and organize four regional ToT workshops for their use	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	
3. To enhance community awareness, education, and stakeholder engagement through culturally appropriate communication strategies and targeted public campaigns aimed at high-risk populations.	Engagement community leaders and local authorities to support dog vaccination campaigns	-Annual continental advocacy meeting with local elected officials (mayors)	ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zone 1 : 2026 Zones 2 et 3 : 2027
	Engagement with Ministries of Education to integrate dog welfare and rabies knowledge in schools' public health and agriculture curriculums	-National awareness sessions in each country	Countries	
4. To coordinate mass dog vaccination campaigns and dog population management interventions, including integration with broader animal health services and synchronized cross-border vaccination efforts.	Acquisition of vaccines (public-private partnership for distribution and local administration)	Identification of vaccine manufacturers Joint public-private advocacy for acquisition Logistics contracting	Countries	
	Strengthening vaccination logistics	Needs assessment (synergies with EPI programs) Acquisition of vaccination campaign logistics		
	Regional training on ethical management of Community/ Free Roaming dogs	Four regional ToT workshops on Dog Population Management (sterilization, vaccination, identification/ registration, dog welfare, legislation) Dissemination of online educational materials (GARC, WHO, UNICEF & other Bodies)		
	Development of shared databases (national, regional, continental; traceability, GPS tracking)	Set up a team data management SME (national, regional and continental, traceability, GPS tracking).		

	Synchronized cross-border vaccination campaigns in Zones 1, 2, and 3	Organization of large-scale, synchronized free dog vaccination campaigns in the various zones (1, 2 and 3)		
5. To expand equitable access to human rabies prevention services, including post-exposure prophylaxis (PEP) and integrated bite case management, with priority focus on vulnerable populations.	Simplified bite case management protocols for primary health centres	Four regional workshops to develop and validate harmonized protocols	Countries	
	Continental advocacy for human rabies vaccine availability in rural areas (GAVI initiative)	Continental Summit-level meeting to promote state commitment to acquisition and collaboration		
	Regional rabies data platform (integrated into DHIS2 or WAHIS/EMPRES/ ARIS)	Regional expert working group to create the platform	AU, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	Zone 1 : 2026 Zones 2 et 3 : 2027
	Dynamic mapping of outbreaks at regional and continental levels	Dynamic mapping of outbreaks at regional and continental levels	AU, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	
	Cost-effectiveness evaluations of vaccination strategies to guide donor investment	Developed cost-effectiveness evaluation projects for rabies vaccination campaigns at the sub-regional and national levels		
	-Operational research (selected pilot countries) on: ● Free roaming dog behaviour ● Community dog keeping behaviour ● Social acceptability of vaccination campaigns ● Effectiveness of new vaccines and strategies (oral vaccination) ● Phylogenetic study and strain dynamics	Research in pilot countries or regions for operational research		

6.To mobilize resource, with a focus on integrating rabies into health security plans, innovative funding, and partnerships with donors, foundations, and the private sector.	Advocate for the integration of rabies control into the National Action Plan for Health Security (NAPHS) to ensure that rabies elimination becomes a priority	Organise a continental advocacy conference to integrate rabies control into the National Health Security Action Plan (PANSS) and make rabies a priority	AU	2026
	Collaborate with international donors and foundations to secure additional financial support, ensuring the availability of resources for rabies control activities	organise two continental advocacy conferences with identified donors such as the Global Fund, GAVI, the Bill & Melinda Gates Foundation and the WHO, in order to raise funds for the fight against rabies.	AU	2026 2027
	Promote innovative financing mechanisms to explore and implement new financing mechanisms that support the fight against rabies	Establish a regional expert committee to develop and identify innovative financing mechanisms, seek opportunities for crowdfunding and community fundraising	WOAH, GARC, ECOWAS, ECCAS, IGAD, SADC, EAC, AMU	2026
	Promote the mobilisation of national and regional resources in order to reduce dependence on international donors and ensure self-sufficiency in rabies elimination efforts.	Organise one conference per region and one conference per country to raise awareness among administrative and political authorities about the importance of rabies	ECOWAS, ECCAS, SADC, EAC, IGAD, AMU	2026
7.To promote evidence-driven rabies elimination through operational research, digital tools to inform and evaluate strategies	Cost-effectiveness evaluations of vaccination strategies to guide donor investment	Developed cost-effectiveness evaluation projects for rabies vaccination campaigns at the sub-regional and national levels		
	-Operational research (selected pilot countries) on: • Free roaming dog behaviour • Community dog keeping behaviour • Social acceptability of vaccination campaigns • Effectiveness of new vaccines and strategies (oral vaccination) • Phylogenetic study and strain dynamics	Research in pilot countries or regions for operational research		

ANNEX 2: SWOT analysis of Rabies elimination in Africa

Strengths • Engagement of African Union • Knowledge and new technologies for rabies elimination • Good vaccines (human and animal) • GAVI initiative	**Weaknesses** • Multiplicity of actors with different agendas • Workforce (PVS) • Inadequate data and information to engage political decisions. • Poor coordination (inaction or poor strategies) • Low value of dogs in societies • Weak multisectoral coordination and collaboration between the animal and human health sectors
Opportunities • AU agenda 2063 • Rabies as a priority in most countries • Rabies as a model for the One Health field implementation • National and regional One Health coordination mechanism • Presence in several countries of laboratories specializing in rabies diagnosis and research. • Existence of active rabies platforms at the global and regional levels. • Existence of effective tools and platforms for promotion, education, monitoring, and communication	**Threats** • Weak regional politics endorsement • Weak communities' engagements • Insecurity, war • New pandemics and outbreaks

Annex 3: Budgeting

The budgeting of rabies control is composed of the cost of human post-exposure prophylaxis, dog mass vaccination and the coordination cost at the level of the African Union and the regional economic communities (RECs). For the cost of human post-exposure prophylaxis, the African states can fully relay on GAVI's rabies vaccine investment strategy (VIS) following the regular eligibility procedures. Currently African early adopter countries have been selected. The estimation of dog mass vaccination cost builds up on empirical data from smaller scale mass vaccination programs considering animal and human (preventive) vaccines, consumables, equipment, personnel, transport, communication, information, coordination, administration and opportunity cost of labour.

The cost of the above dog mass vaccination campaigns has been extrapolated to the whole country of (Chad Table 2) For this analysis, a detailed estimation of the dog: human ratio considered urban / rural, socio-cultural and religious determinants. A continental estimate of dog mass vaccination cost further considered gross domestic product of the different African countries (Table 3)

Table 2: *Cost menu of the national dog vaccination cost in Chad*

Model parameters and their distributions.

Item	Most likely dog numbers/ Most likely prices applied in scenarios	Min.	Max.	Probability distribution	Unit
Dog population	1,205,361	1,128,008	1,736,774	Pert	dogs
Canine : human ratio	1 : 9.07	1 : 9.7	1 : 6.3		
Doses of vaccine	0.20	n/a	n/a	n/a	Euro
Syringes and Needles	0.04	n/a	n/a	n/a	Euro
Vaccination Certificates	0.08	n/a	n/a	n/a	Euro
Human vaccine	76.34	n/a	n/a	n/a	Euro
Tables	0	0	0	n/a	Euro
Chairs	0	0	0	n/a	Euro
Registers	15.27	12.21	18.32	Pert	Euro
Red Pens	0.23	0.15	0.31	Pert	Euro
Blue Pens	0.23	0.15	0.31	Pert	Euro
Markers	0.76	0.61	0.92	Pert	Euro
Stamps	15.27	13.74	16.79	Pert	Euro
Muzzles	22.90	15.27	30.53	Pert	Euro
Cooling Boxes	45.80	38.17	53.44	Pert	Euro
Cooling Elements	1.53	0.76	2.29	Pert	Euro
First Aid Kits	49.62	22.90	76.34	Pert	Euro
Megaphones	68.70	22.90	114.50	Pert	Euro
					Euro
Posters	0.76	0.76	2.29	Pert	Euro
Radio Broadcasts (national)	45.80	38.17	53.44	Pert	Euro
Radio Broadcasts (local)	38.17	30.53	45.80	Pert	Euro
Cars	21374.05	18320.61	24427.48	Pert	Euro
Fuel	0.92	0.76	0.99	Pert	Euro
Supervisors (training)	30.53	22.90	45.80	Pert	Euro
Supervisors (vaccination)	45.80	22.90	45.80	Pert	Euro
Supervisors (information)	45.80	22.90	45.80	Pert	Euro
Drivers	30.53	7.63	30.53	Pert	Euro
Vaccinators (training)	15.27	7.63	30.53	Pert	Euro
Vaccinators (vaccination)	22.90	7.63	30.53	Pert	Euro
Veterinarians	30.53	22.90	45.80	Pert	Euro
Health workers	30.53	22.90	45.80	Pert	Euro
Delegate of the ministry of animal husbandry	61.07	30.53	61.07	Pert	Euro
Governors of regions	45.80	15.27	45.80	Pert	Euro

Annex 4: Cost Estimates of Dog Mass Vaccinations as Per Countries

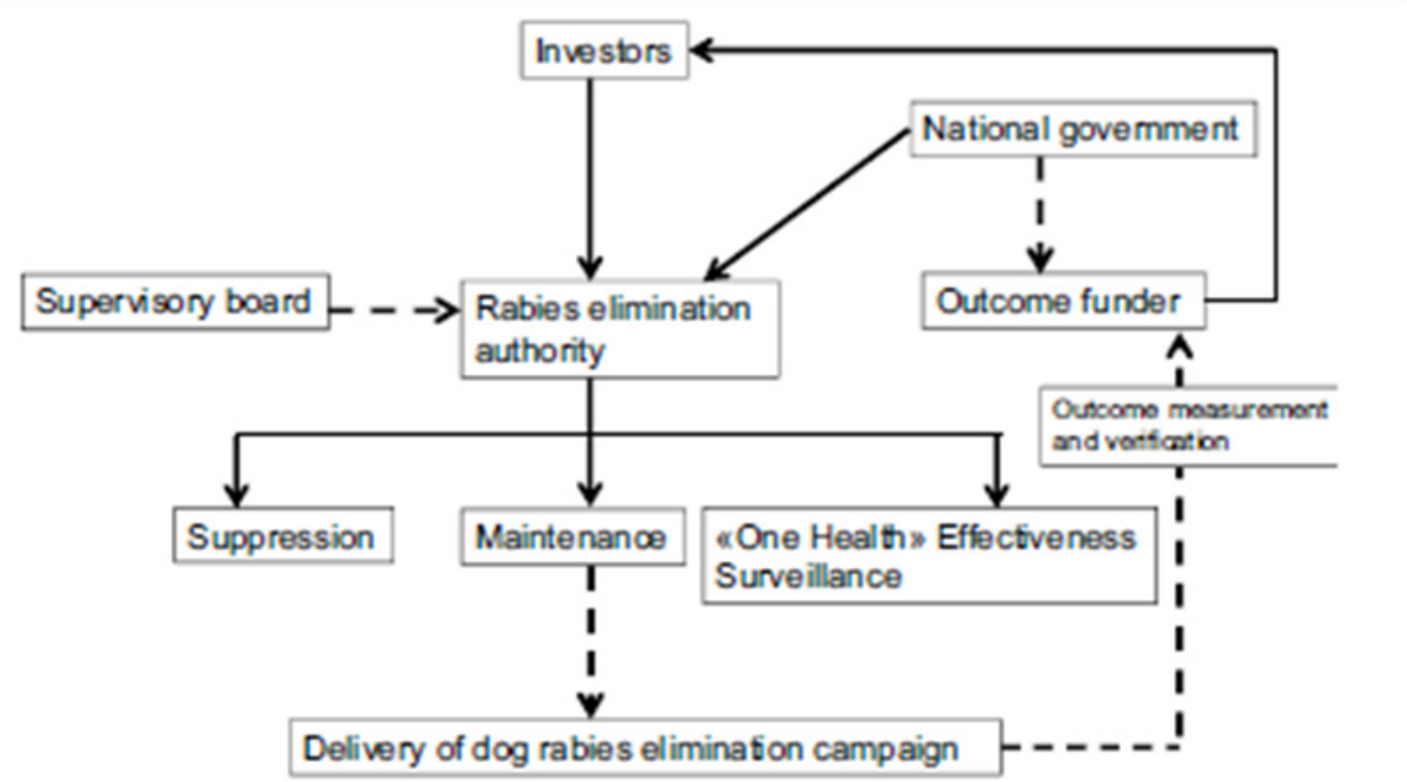
Table 3: *Cost Estimates of Dog Mass Vaccinations as Per Countries*

	Vaccination cost (USD, 2025)		
Country	**Lower bound**	**Mean**	**Upper bound**
Algeria	11'332'875	21'605'734	40'039'302
Angola	6'950'720	12'731'477	22'685'041
Benin	2'574'520	4'475'793	7'514'967
Botswana	1'197'360	2'285'580	4'255'612
Burkina_Faso	4'210'273	7'047'130	11'333'448
Burundi	1'841'895	3'010'642	4'677'902
Cameroon	5'239'011	9'324'154	16'066'522
Central_African_Republic	743'587	1'262'605	2'052'902
Chad	3'176'691	5'241'382	8'280'717
Democratic_Republic_of_the_C	13'352'868	22'816'811	37'431'764
Congo	1'153'277	2'124'939	3'809'272
Cote_dIvoire	7'505'044	13'299'704	22'947'603
Djibouti	241'705	466'551	875'540
Egypt	43'110'806	75'908'555	129'959'964
Equatorial_Guinea	844'705	1'627'579	3'063'505
Eritrea	518'433	881'786	1'433'718
Eswatini	589'376	1'009'823	1'679'151
Ethiopia	25'192'706	41'692'578	66'116'421
Gabon	827'436	1'732'592	3'496'487
Gambia	335'190	596'562	1'022'195
Ghana	7'906'160	14'223'984	24'833'122
Guinea	2'711'502	4'606'429	7'518'848
Guinea_Bissau	320'858	547'704	897'568
Kenya	15'477'074	26'267'766	43'060'178
Lesotho	473'118	793'883	1'279'258
Liberia	685'144	1'185'667	1'971'310
Libya	2'192'628	4'350'740	8'355'452
Malawi	3'687'604	6'057'897	9'482'446
Mali	3'704'012	6'330'036	10'429'767
Mauritania	936'329	1'658'603	2'845'658
Morocco	10'327'733	19'005'653	33'999'053
Mozambique	4'579'039	7'721'851	12'421'171
Namibia	1'044'513	1'882'535	3'308'604
Niger	4'766'299	7'793'158	12'185'124
Nigeria	50'359'788	88'944'263	152'500'406
Rwanda	2'745'635	4'522'855	7'121'401
Senegal	3'585'547	6'223'769	10'495'147
Sierra_Leone	1'121'081	1'905'866	3'103'304
Somalia	2'156'373	3'687'658	6'039'378
South_Africa	27'198'172	51'315'802	94'566'545
South_Sudan	1'589'281	2'613'496	4'089'663
Sudan	7'723'907	12'967'364	20'935'975
United_Republic_of_Tanzania	12'971'185	21'936'752	35'735'071
Togo	1'499'114	2'560'453	4'209'869
Tunisia	3'385'249	6'373'197	11'654'194
Uganda	9'030'229	14'991'828	23'847'067
Zambia	3'546'734	6'101'902	10'096'798
Zimbabwe	4'133'637	7'014'735	11'505'481
Total estimates	**320'796'426**	**562'727'822**	**957'229'891**

In the Table the lowest dog population estimates have been multiplied by the lowest full cost per vaccinated dog estimates and similarly with the mean and highest dog population estimates and vaccination cost. Realistically, the overall cost for a continental campaign likely falls between the mean and upper bound cost of 560 – 960 Million USD. Coordination cost at continental level and REC level should be added. These costs could be minimized by using the regular channels of communication at AU-IBAR and REC level meetings. WOAH general assemblies can be used for updates on progress.

These projections (Table 3) should now be matched with national dog population estimates and national full cost per vaccinated dog.

Annex 5: Campaign Design Sketch Board



African Union – Interafrican Bureau for Animal Resources
(AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
PO Box 30786-00100 Nairobi, Kenya
Tel: +254 (20) 3674 000
Email: ibar.office@au-ibar.org
Website: www.au-ibar.org