



Advancing the Rabies Elimination Agenda 2030: AFROHUN's Contribution through Student One Health Clubs in Uganda

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Veterinary Medicine students perform spays and neuter surgeries in Gomba district, September 2024.

Background

Rabies is a deadly viral zoonotic disease with a 100% fatality rate if untreated, posing a significant threat to both human and animal health. Globally, rabies claims approximately 59,000 lives annually, with 95% of these deaths occurring in Africa and Asia. The majority of victims are children under 15 years old. In Uganda, rabies is among the top seven priority zoonotic diseases and is

legally mandated to be controlled as a public good disease – posing significant threat to public health and whose prevention and control are considered a responsibility of the government or society as a whole. Nearly 99% of human rabies cases result from bites by rabid dogs, making mass canine vaccination, targeting at least 70% of the dog population, a critical strategy for preventing the

disease at its source. Despite these measures, Uganda continues to experience outbreaks resulting in significant morbidity and mortality. AFROHUN, with support from USAID through the One Health Workforce-Next Generation project, is contributing to the implementation of the National Rabies Elimination Strategy 2030.

Uganda's National Rabies Elimination Strategy (NRES)

The National Rabies Elimination Strategy (NRES) is aligned with the global Stepwise Approach to Rabies Elimination (SARE) developed by the tripartite partnership of the World Health Organization (WHO), World Organisation for Animal Health (WOAH), and the Food and Agriculture Organization (FAO). The SARE framework comprises five stages designed to guide countries toward elimination of rabies by 2030. These stages include: 0) No Rabies Control Activities, 1) Awareness and Assessment, 2) Capacity Building and Planning, 3) Elimination Activities in High-Risk Areas, 4) Elimination of Human Rabies and 5) Freedom from Dog-Mediated Human Rabies. Uganda is currently at Stage 2, which focuses on building capacity and implementing foundational activities for rabies control.

The NRES outlines key initiatives to achieve rabies elimination, including:

- **Mass Canine Vaccination:** Routine vaccination campaigns targeting at least 70% of the dog population.

- **Community Awareness and Education:** Sensitizing communities about rabies prevention and control.
- **Prevention of Human Deaths:** Ensuring timely and affordable access to post-exposure prophylaxis (PEP).
- **Strengthening Surveillance and Response:** Enhancing reporting and management systems for rabies cases.
- **Laboratory System Strengthening:** Improving the capacity for rabies detection and diagnostic services.
- **Legal Framework Enhancement:** Developing and enforcing laws supporting rabies control measures.
- **Task Force Operationalization:** Establishing and operationalizing National and District Rabies Elimination Task Forces (NRETF and DRETF).

AFROHUN's Strategy to Supporting Rabies Elimination

AFROHUN Uganda adopted a comprehensive and collaborative approach to support the implementation of the National Rabies Elimination Strategy (NRES) from 2022 to 2024. This strategy focused on leveraging the expertise of pre-service cadres—veterinarians, public health specialists, medical doctors, and social scientists—drawn from leading institutions, including Makerere University, Mbarara University of Science and Technology, and Lira University. These pre-service professionals were paired with experienced mentors from academia, regional emergency operations centers, One Health core ministries, and local government personnel. The pairing aimed to foster a hands-on, interdisciplinary learning experience while addressing rabies prevention and control in Uganda.

Key activities led by this cadre included:

- **Vaccination of Pets:** Conducting routine rabies vaccinations to prevent transmission at the source.

- **Risk Communication and Community Engagement:**

Educating communities about rabies risks, prevention strategies, and responsible pet ownership.

- **Surveillance:**

Enhancing the identification and reporting of suspected rabies cases.

- **Spaying and**

Neutering of Pets: Performing surgeries to control stray animal populations and reduce rabies transmission risks.

- **Training of Pet Owners:** Offering personalized advice on pet care, nutrition, and general health to reduce the likelihood of rabies outbreaks.

- **Active Case Search:** Identifying and addressing suspected cases of rabies in both animals and humans.

This multifaceted approach was implemented across four key districts: Kampala, Gomba, Bukwo, and Busia, with targeted interventions tailored to local needs.



Key Achievements / Results

- i) **Vaccination Campaigns:** Over 1,500 pets were vaccinated across Kampala, Gomba, Bukwo, and Busia districts, significantly reducing the risk of rabies transmission.
- ii) **Spaying and Neutering:** To control stray animal populations, 52 spays and neuter surgeries were performed in Gomba, and over 30 similar procedures were carried out in Busia.
- iii) **Community Sensitization:** Outreach programs reached more than 2,500 school children in Kampala and over 1,500 community members in Bukwo, educating them on the dangers of rabies and stray dogs.
- iv) **Surveillance and Emergency Response:** Pre-service cadres participated in active case searches and the timely immunization of exposed animals in suspected rabies outbreaks.
- v) **Mentorship:** Fifty (50) pre-service cadres were mentored by 10 in-service personnel from various sectors, fostering the next generation of One Health practitioners.

Case story 1: Empowering Communities for Rabies Prevention in Gomba

Veterinary students from Makerere University offering essential veterinary services and vaccinate pets against rabies.

In 2022, Gomba District hosted Uganda's national World Rabies Day celebrations, under the theme "All for 1, One Health for All," spearheaded by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and supported by key stakeholders, including

AFROHUN Uganda. AFROHUN sponsored 26 veterinary students from Makerere University to participate in week-long outreach activities aimed at advancing rabies elimination efforts. The students collaborated with district veterinary offices to raise awareness about rabies prevention and promote responsible pet ownership, vaccinate pets, safeguarding both animal and human health and perform spaying and neutering surgeries to control

stray animal populations.

The outreach successfully delivered essential veterinary services to the community and advanced Uganda's National Rabies Elimination Strategy by promoting a One Health approach. This initiative highlighted the critical role of pre-service cadres in addressing public health challenges and brought Uganda closer to achieving zero rabies by 2030.

Case story 2: Controlling a Rabies Outbreak in Busia District, 2024



Fig 3: Students engage communities in the vaccination of pets in Busia, August 2024.

Busia District, situated in eastern Uganda and bordering Kenya, faced a significant rabies outbreak between May and November 2024, marked by escalating animal attacks. During this period, over 15 people and 97 livestock were bitten by foxes and dogs, with multiple samples testing positive for rabies. These findings classified the

situation as an outbreak, given that a single confirmed rabies case meets this criterion.

In response, AFROHUN Uganda, supported by USAID, mobilized a team of 13 professionals, including 11 veterinary students from the College of Veterinary Medicine, Animal Resources, and Biosecurity,

along with three veterinarians from the Vetconekt Initiative. The team collaborated with local authorities to vaccinate 630 pets, significantly reducing the risk of rabies transmission, conduct risk communication and community engagement to raise awareness about rabies prevention and control, and engage stakeholders

to strengthen strategies for rabies elimination.

This coordinated effort demonstrated the value of pre-service training and community collaboration in managing public health emergencies and advancing Uganda's National Rabies Elimination Strategy.

Case story 3: Containing a Rabies Outbreak in Bukwo District, 2023



A Ministry of Agriculture, Animal Industry and Fisheries official vaccinating dogs in Bukwo district. Photo source: AFROHUN Uganda.



Veterinarians pose with their cool boxes in front of the district headquarters, December 2023. Photo source: AFROHUN Uganda.

Bukwo District, located on the slopes of Mount Elgon and bordering Amudat District, Kenya, and Kween District, has a substantial dog population of approximately 5,000. Many of these dogs are used for hunting in the national park, where they are at risk of exposure to rabies from wild reservoirs. This unique context creates a heightened vulnerability to rabies outbreaks in the district.

In December 2023, the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF) responded to a rabies outbreak in Bukwo following reports of aggressive and rabid behavior in dogs. The outbreak included 15 dog bites in Torokyo village and a rabid calf in Kapsekek village, which succumbed to the disease. Immediate actions were taken to contain the outbreak by vaccinating all animals (over 750 dogs and 21 cats) exposed to the

infected calf to curb further rabies transmission and terminating a suspected rabid dog in Rikwo village, with samples confirming rabies.

This rapid response effectively interrupted the rabies transmission cycle, highlighting the importance of proactive surveillance, timely vaccination, and intervention in addressing zoonotic diseases in high-risk areas.



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CONCLUSION

AFROHUN's strategic interventions are making a significant impact on Uganda's journey toward the Rabies Elimination Agenda 2030. By deploying pre-service cadres and fostering mentorship through partnerships with academia, local governments, and other stakeholders, AFROHUN has demonstrated the power of a One Health approach in tackling rabies. Through community engagement,

mass vaccination campaigns, surveillance, and pet population control measures, AFROHUN has directly contributed to reducing the risk of rabies transmission, improving community awareness, and strengthening local capacity to respond to outbreaks. The successes achieved in the districts of Gomba, Bukwo, Busia, and Kampala underscore the critical role of collaboration, innovation, and capacity building in achieving

sustainable outcomes. These efforts not only address immediate public health threats but also build a foundation for a rabies-free future. By empowering the next generation of One Health professionals and engaging communities, AFROHUN is advancing Uganda's National Rabies Elimination Strategy and contributing to global efforts to achieve zero human deaths from rabies by 2030.

ABOUT AFROHUN

Africa One Health University Network (AFROHUN) is an international network, currently in 28 higher education institutions of public health, veterinary medicine, pathobiology, environmental sciences, medicine and global health, in 10 countries in Africa. The countries are *Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Rwanda, Senegal, Tanzania and Uganda*. AROHUN is formerly OHCEA.

AFROHUN is working to transform the training environment and approaches in universities and allied institutions in Africa, to develop a One Health workforce: a workforce with no disciplinary boundaries. AFROHUN is building a workforce with competency to predict, detect and respond to the kind of complex health challenges we are witnessing today. To achieve this transformation, we are reviewing curricula, designing new and exciting experiential learning multidisciplinary training programs, re-tooling teachers and trainers, educating communities on existence and transmission of zoonotic and infectious diseases, while engaging national and sub-national governments to integrate One Health into national policy and strategic planning.

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