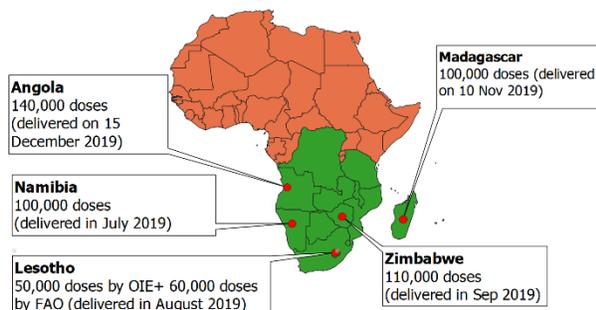


Successful Engagement of the OIE Towards Rabies Elimination in Africa

The *World Organisation for Animal Health* (OIE) regional and sub-regional representations in Africa implemented several activities towards elimination of rabies in Africa. The following are some of the key achievements in the region:

Donation Rabies Vaccine through OIE vaccine banks

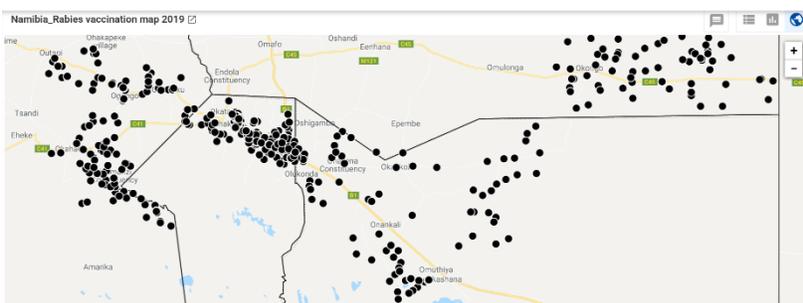
Since the establishment of [OIE Vaccine Bank in 2012](#), millions of rabies vaccine doses were delivered to African countries to support the rabies elimination programme. One of the intentions is that the vaccines acquired through the OIE Rabies Vaccine Bank act as a trigger for the implementation of mass dog vaccination. In Africa, the beneficiary countries so far include Angola, Algeria, Benin, Burkina Faso, Côte d'Ivoire, Eritrea, Gambia, Ghana, Kenya, Lesotho, Liberia, Madagascar, Mali, Namibia, Senegal, Togo, Tunisia and Zimbabwe through purchases managed by the OIE thanks to donor support; Tanzania through the *Food and Agriculture Organisation of the United Nations* (FAO) support; Chad and Mali through purchases supported by the Swiss Tropical and Public Health Institute; and Central African Republic, South Africa and Tanzania through WHO support, part of which was funded by the *Bill & Melinda Gates Foundation* (BMGF) project. The yellow highlighted map shows the rabies vaccine recipient countries in Africa.



In southern Africa region, all OIE donated vaccines were formally handed over to the Ministers of Agriculture, who provided policy support to the *Directorate of Veterinary Services* (DVS) to conduct mass dog vaccination campaign.

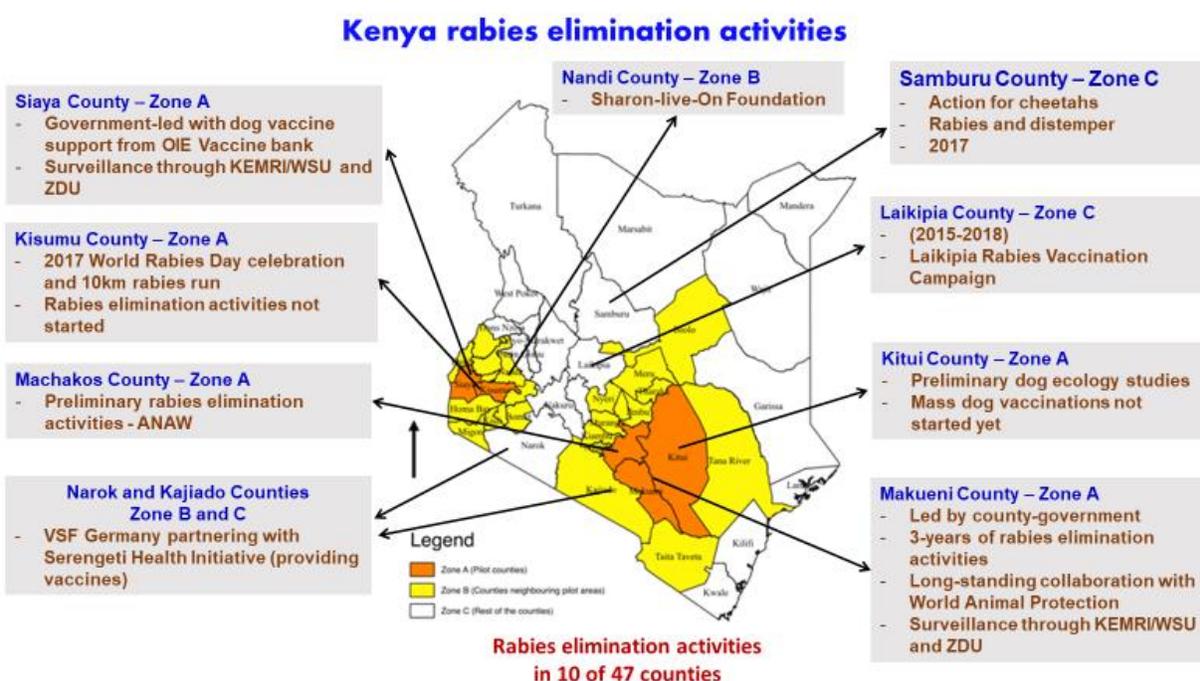
Rabies Projects and Mass Dog Vaccination Campaign in Africa

Southern Africa (Namibia): With support of the Government of Namibia, the “*Technical Support for Namibia in Eliminating Rabies in Dogs*” project funded by the Federal Republic of Germany was launched in March 2016 with dog vaccination campaigns targeting elimination of dog-mediated human rabies in the *Northern Communal Areas* (NCA) of Namibia. A total of 350,000 doses of rabies vaccines were successfully procured from the OIE Rabies Vaccine Bank that resulted in vaccination of 31,000 dogs and 2,980 cats during pilot project phase in 2016 in Oshana region. During the rollout phase in 2017 and 2018, the number of vaccinated dogs in the NCAs amounted to 99,814 and 72,953 dogs respectively, and 19,248 cats, achieving an estimated coverage of 26 to 74% across the NCA region. In 2019, a total of 17,304 dogs and 754 cats were vaccinated against rabies in the NCA. In 2019 campaign, a Global Alliance for Rabies Control (GARC) Data logger was used to capture and visualize vaccination points in Namibia. Human rabies deaths had decreased from 25 cases in 2015 to one case in 2018 in NCA, Namibia.



Eastern Africa (Kenya): In Kenya, the “Strengthening Veterinary Services in Developing Countries” project with a rabies control component (SVSDC+R) funded by the European Union commenced in December 2015 and ran up to December 2019. In Kenya the project assisted the relevant competent authorities establish the National and County Rabies Elimination Coordination Committees (NRECC and CRECC, respectively) and launch a rabies campaign website (<http://www.rabiesfreekenya.com>) and commissioned a toll-free line for the reporting of dog bites. A total of 800,000 doses of rabies vaccines were delivered to Kenya from the OIE Rabies Vaccine Bank between January 2016 and October 2019 and a total of 290,000 dogs were vaccinated in Siaya, the pilot County. Between 2018 and 2019, the vaccines also supported the vaccination of 124,729 in Makueni, 48,000 in Nandi, 51,000 in Laikipia, 8,000 in Samburu and 4,000 in Nairobi counties. Active rabies surveillance and dog ecology studies were undertaken in Siaya, Machakos and Makueni counties. Provision of a toll-free number in Kenya increased reporting of suspected animal bite incidents and the percentage of bite victims who received life-saving post exposure prophylaxis (PEP).

Various other players supported the OIE in rabies elimination activities as shown in the figure below.



North Africa (Tunisia): Between March 2017 and October 2019, the SVSDC+R project delivered - through the OIE Rabies Vaccine Bank - 800,000 doses of rabies vaccine to Tunisia and, in December 2019, for the first time 500,000 doses to Algeria to organize mass dog vaccination campaign.

In North Africa, Tunisia has been proactive in the past few years in relation to rabies prevention, control and awareness activities. In addition, it has benefitted from the project funded by the European Union, ‘Strengthening Veterinary Services in Developing Countries’, which included a rabies component (SVSDC+R). The main actions conducted by the Tunisian Government on rabies are summarized as follows:

- Applied for and received four sets of vaccine donations through the OIE Vaccine Bank to facilitate national vaccination campaigns;
- Established two vaccination centres, one at the Veterinary School of Sidi Thabet and the other at the Municipality of Tunis;
- Held two workshops, in May and September of 2017, dedicated to the management of stray dog populations, mainly focused on capture techniques. These workshops were organised by the

Veterinary Authority and the Municipality of Tunis in collaboration with the OIE Sub-Regional Representation for North Africa;

- Established the first permanent municipal centre (in Tunis) for the sterilisation, identification and vaccination of stray dogs.

Initiatives with respect to rabies action at regional level were also conducted in Northern Africa over the past years. A regional training seminar on rabies communication took place in Tunis in 2015 (countries: Algeria, Libya, Mauritania, Morocco and Tunisia) in order to increase awareness about the disease and better use the communication channels. In July 2019 (countries: Algeria Morocco and Tunisia), under the One Health umbrella, a regional consultation on Rabies control in North Africa was held in Tunisia with a view to moving towards effective rabies elimination strategies in the sub-region. This workshop benefited of the expertise and experience of Namibia and Kenya. Finally, under the auspices of Pasteur Institute, the OIE contributed to organise and actively participated in the workshop held from 17 to 28 September 2019 in Morocco in order to provide practical training on rabies for North African and Western African countries.

Provision of Technical support for rabies elimination programme

In the framework of vaccine donation, several supporting technical missions were carried out to the member states and provided technical support on rabies and vaccination campaign towards the elimination of dog-mediated rabies in the region. The OIE provided technical support to Mali, ESwatini, Lesotho on the development of the national control plan and programme for the control of rabies. Also participated in drafting of *South African Development Community* (SADC) regional rabies elimination plan.

Capacity building: Training, Seminar and workshop

In February 2017, the OIE provided technical support in the establishment of the first Eastern Africa Rabies Network meeting that was collaboratively hosted by GARC, CDC and the Kenya's Zoonotic Diseases Unit (ZDU) to enable a sub-regional approach to rabies elimination. The meeting estimated a \$ 23 million USD annual shortfall in current spending across the Eastern Africa region to achieve the recommended 70% vaccination coverage.

In April 2018, an OIE Sub-Regional Seminar on Rabies in the SADC region was held in Windhoek, Namibia that recommended development of SADC rabies elimination plan. Other national

Mali signed a joint commitment (Ministry of Health and Ministry of Livestock) for combating rabies in line with the "Zero by 30" Global Strategic Plan developed by the OIE, FAO, the *World Health Organization* (WHO) and the GARC.

In January 2018, GARC and the World Animal Protection (WAP) organised a two-day *Stepwise Approach towards Rabies Elimination* (SARE) workshop in Zanzibar to support a dog vaccination project on Unguja Island which was initiated in August 2017.

Several rabies workshops and training were conducted in Kenya, Tunisia, Mali, Namibia.

Rabies diagnosis and laboratory twinning project

The OIE has supported laboratory twinning between the Onderstepoort Veterinary Institute (OVI) in Pretoria (Parent Lab) and the *National Veterinary Research Institute* (NVRI) in Vom, Nigeria (Candidate Lab). Rabies diagnostic training were conducted in SADC region with rabies Proficiency Testing in Africa being conducted at OVI. The twinning project which started in 2010 and ran up to 2012 saw the exchange of personnel between the two laboratories to enhance diagnostic capabilities for rabies at the NVRI. This has now enabled the NVRI to participate in an annual international proficiency test for rabies, which is coordinated by the *French Agency for Food, Environmental and Occupational Health & Safety* (ANSES), an OIE Reference Laboratory for rabies. The twinning programme has also enabled NVRI to attain ISO 17025 accreditation, enhance its regional capacity for rabies testing and increase sample submissions.

Between 2017 and June 2019, some 15 staff from *Public Health Laboratories* (PHL) and 15 from the *Central Veterinary Laboratories* (CVL) in Kenya were trained in direct rapid immunohistochemical test (dRIT), *Reverse transcription polymerase chain reaction* (RT-PCR) and nanopore sequencing of rabies virus. Staff from PHL and CVL from Uganda and Tanzania were also trained in rabies virus sequencing and comparative testing on rabies samples using dRIT and RT-PCT. Consequently, a meeting was organised with participants from the three countries to discuss challenges around rabies diagnosis and mitigation procedures.

The OIE-*Friedrich-Loeffler-Institut* (FLI) laboratory twinning project in Namibia strengthened the rabies diagnostic capacity of the CVL in Namibia which will further provide technical support to the regional laboratories in Northern Namibia and in Angola.



Rabies diagnostic training at OVI, South Africa

Awareness education campaign on rabies and World Rabies Day commemoration

The OIE in the region facilitated the member countries and funded the commemoration of the World Rabies Day on every 28 September. This enhanced awareness education to the policy makers on rabies elimination targets and most importantly created awareness to the school children and the general public on rabies. A ten-kilometer run was organized in Kisumu, Kenya to create awareness on rabies.

The OIE Sub Regional Representation in southern Africa refurbished Government small animal clinic in Lesotho in 2016 and rabies observation kennels in Mozambique in 2017 as part of the World Rabies Day.



Rabies observation kennels before



Kennels after refurbishment in Mozambique



WRD Lesotho 2016 – Refurbishment of a veterinary clinic in Lesotho in 2016.



World Rabies Day Commemoration events in Kenya and in Eswatini



Dog vaccination in Mombasa, Kenya (Left) and in Malindza, ESwatini (Right) on World Rabies Day

In Namibia, as part of the school-based education program, awareness campaigns were held in 119 of 137 schools (86.9%) located in the 11 constituencies of the pilot project area (Oshana region), which reached approximately 44,000 students. During the rollout phase (April 2017 and March 2018), more than 3,500 rabies posters and 35,000 leaflets were distributed throughout the NCAs. School-based awareness campaigns were reaching more than 12,500 students in 42 schools, while television and radio reports and newspaper articles were broadcasted and released in all eight regions, respectively. In 2019, 960 rabies posters and 500 booklets on rabies were printed and distributed to all regions for distribution in schools.

Tunisia also participated in the annual World Rabies Day Awards and was shortlisted for an award in 2017 and won an award in 2018. Furthermore, Tunisia regularly organises activities during the World Rabies Day to better sensitise and involve citizens in the fight against rabies. Finally, the Minister of Health and Agriculture signed in September 2019 the political joint engagement pledged in the Global Strategic Plan to end human deaths from dog-mediated rabies by 2030 (Zero by 30) developed by the OIE, FAO, WHO and the GARC.

Strengthening of a cross-border harmonization

The Veterinary Authorities of Namibia and Angola conducted a bilateral meeting and a joint Technical Committee Meeting in September 2019. The meeting was attended by four Public Health Representatives. This meeting, facilitated by the OIE, resulted in the development of a *Strategic Plan for the elimination of dog-mediated human rabies in Southern Angola*.

The coordination of rabies control efforts between Angola and Namibia and its concretisation through the formulation of a strategic plan is an indicator of significant progress of the Project in 2019. The often-highlighted risk of rabies transmission from southern Angola to the NCA of Namibia will be addressed through the implementation of this strategic plan and counter rabies outbreaks in the border areas of both countries.

To take advantage of the positive dynamic regarding Rabies control in Angola the OIE Vaccine Bank, with the support from the European Union's SVSDC Project, delivered 140,000 doses of rabies vaccines to Angola on 15 December 2019 to facilitate the mass dog vaccination campaign to be conducted in four southern provinces of Angola in May 2020.



The Angolan Veterinary Services will be supported in their efforts to successfully implement their strategy through capacity building activities, including mass dog vaccination training and equipment of vaccination teams. *Discussion on rabies strategic plan*

Data analysis and publications

The following papers on rabies were published in collaboration with other partners in Africa:

1. Hikufe EH, Freuling CM, AthingoR, Shilongo A, Ndevaetela E-E, Helao M, et al. (2019) [Ecology and epidemiology of rabies in humans, domestic animals and wildlife in Namibia, 2011-2017](#). *PLoS Negl Trop Dis* 13(4): e0007355. <https://doi.org/10.1371/journal.pntd.0007355>
2. Athingo R, Tenzin T, Shilongo A, Hikufe E, Shoombe KK, Khaiseb S, van der Westhuizen J, Letshwenyo M, Torres G, Mettenleiter TC, Freuling CM, Müller T (2020). [Fighting Dog-Mediated Rabies in Namibia—Implementation of a Rabies Elimination Program in the Northern Communal Areas](#). *Trop. Med. Infect. Dis.* 2020, 5, 12; doi:10.3390/tropicalmed5010012.
3. Wanyangu WS, Patrick B, Rachid B, Moetapele L, Karim T, Jocelyn M, Alessandro R, Torres G, Stéphane R, Catherine B-F, Elisabeth E-V (2019). [The World Organization for Animal Health \(OIE\)'s engagement towards Rabies Elimination in Africa](#). *J Vet Med One Health* 1(1): 3-14.