

ORV implementation in an African setting - Namibia's experience



Conrad Freuling
Frank Busch
Thomas Müller



Oral rabies vaccination of dogs - Immunogenicity



Ongombo/Grot Aub:

- 78% of dogs offered a bait seroconverted,
- 83% of dogs with direct oral application

 **frontiers**
in Veterinary Science

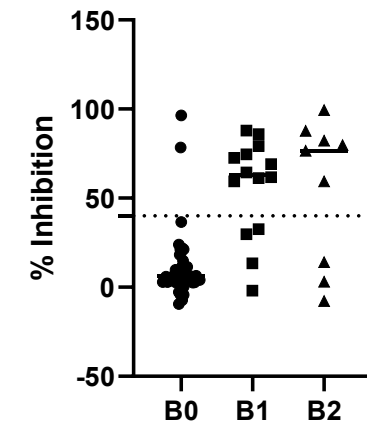
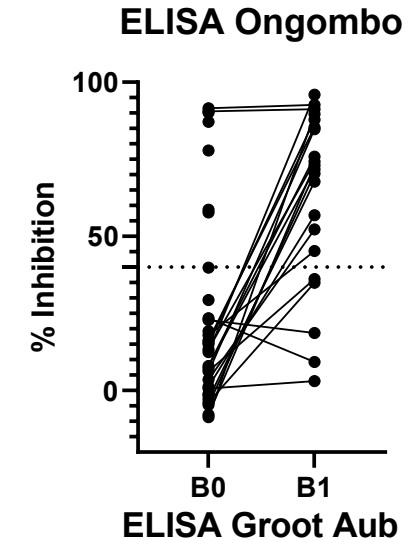
ORIGINAL RESEARCH
published: 25 October 2021
doi: 10.3389/fvets.2021.737250



Immunogenicity of the Oral Rabies Vaccine Strain SPBN GASGAS in Dogs Under Field Settings in Namibia

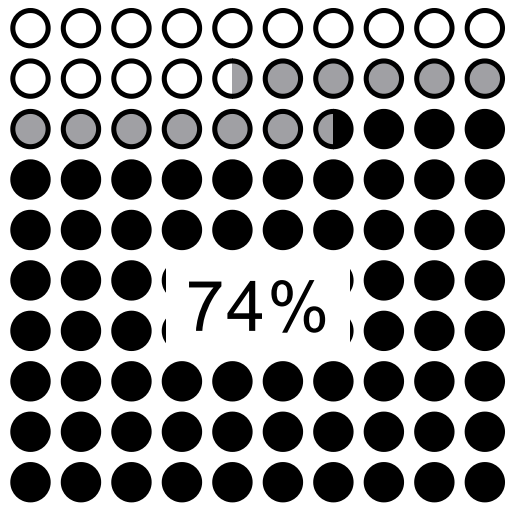
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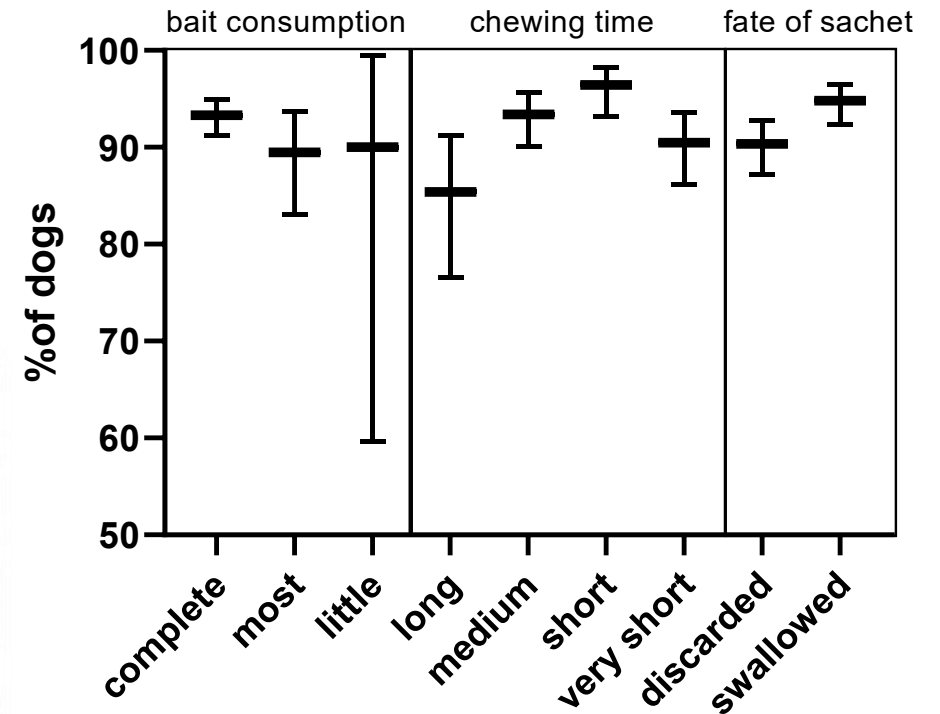


Initial field trial - bait acceptance / vaccination

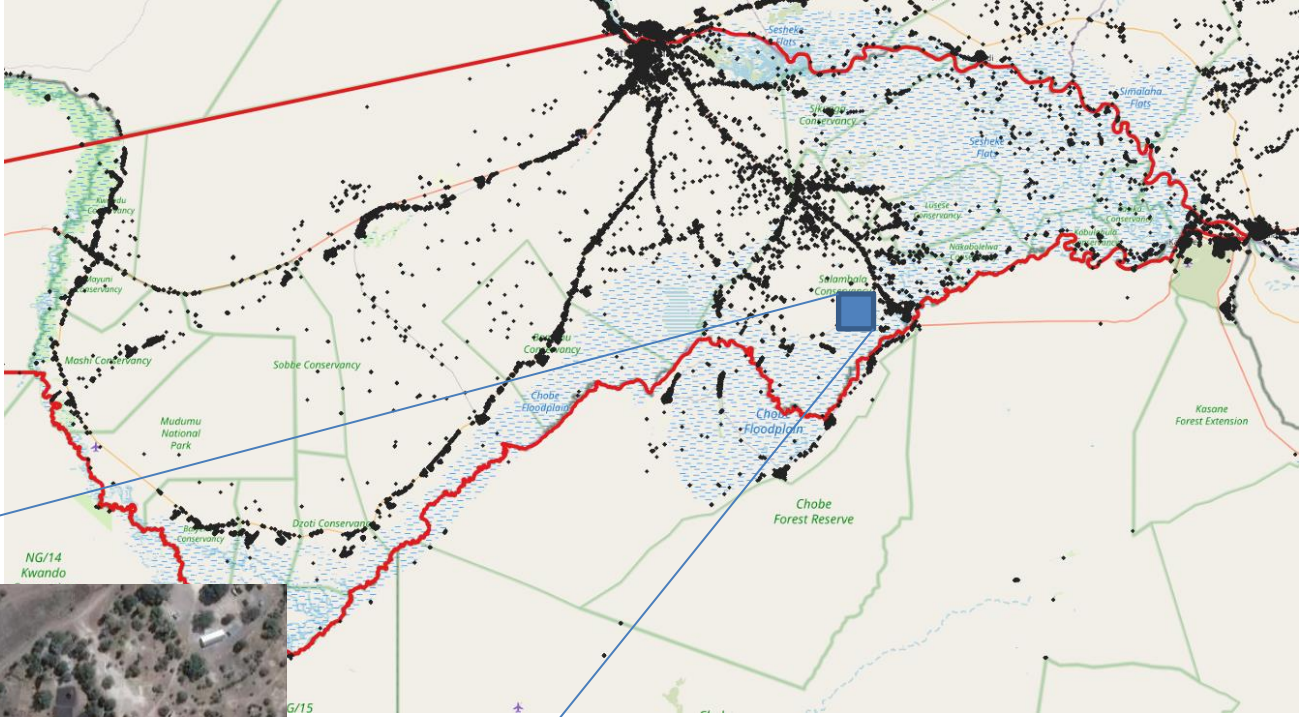
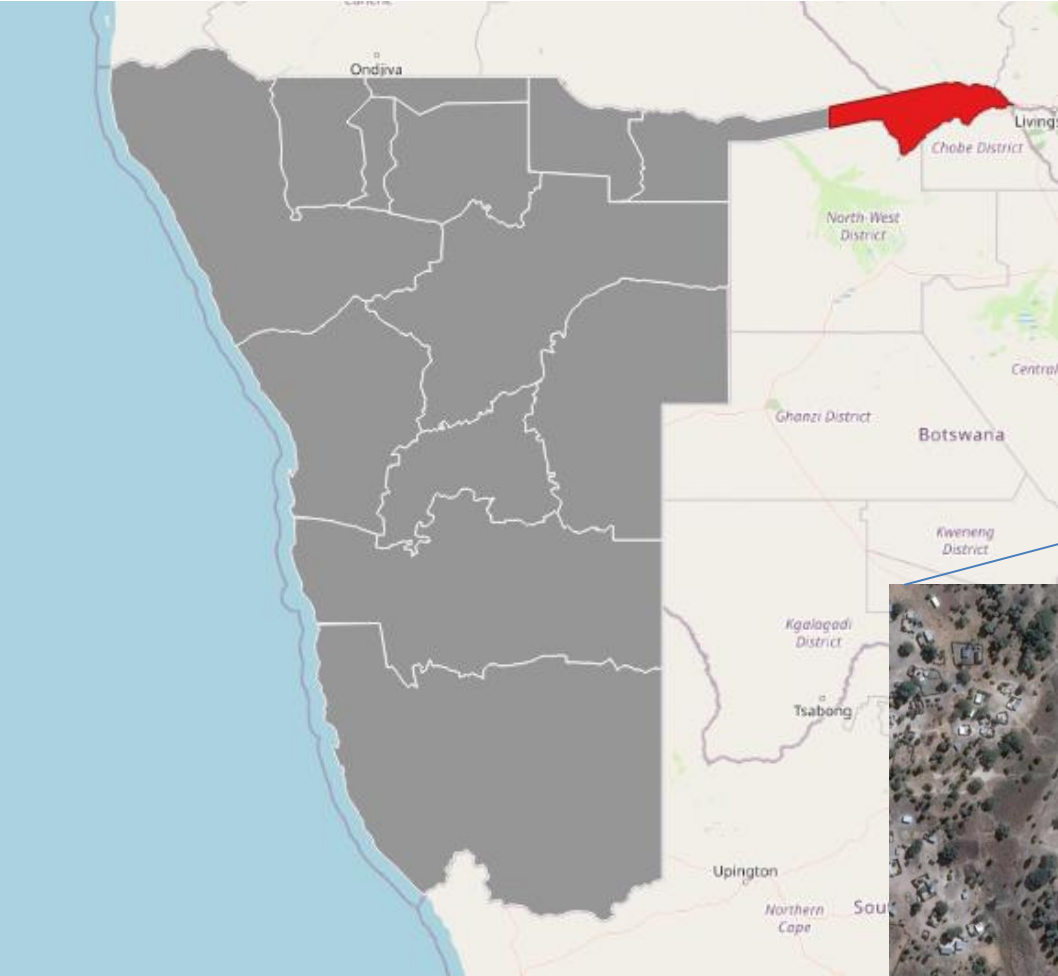


- not vaccinated
- unknown
- vaccinated

Total=1116

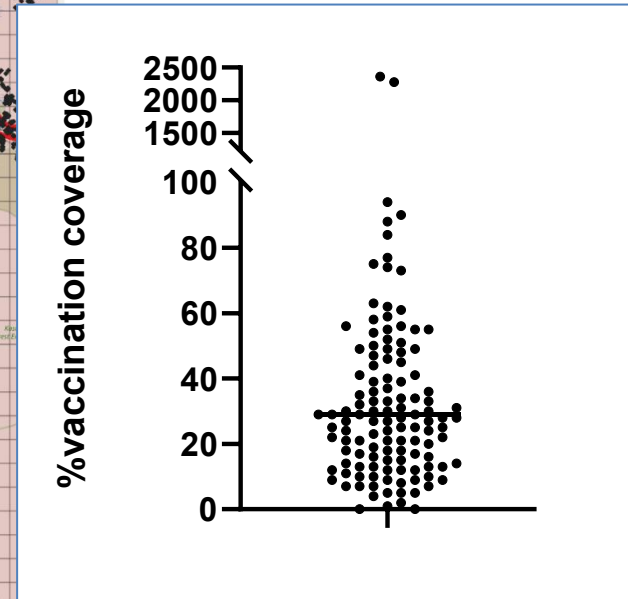
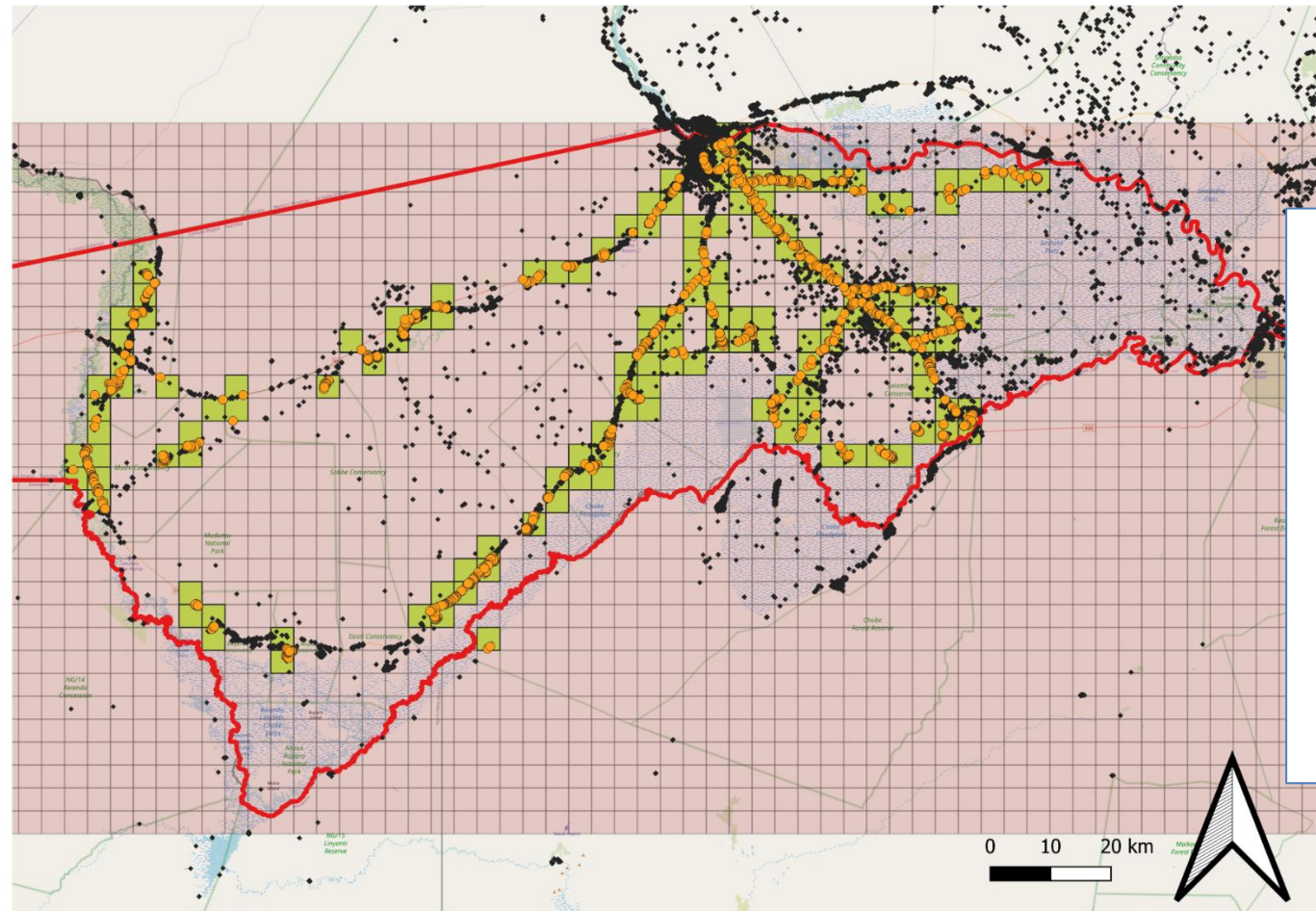


Zambezi region, 2022: Emergency vaccination



ORV field trial - Zambezi region, Namibia

Day 4



N (total) - 2343

Freuling et al., 2023: Dog population estimates and rabies vaccination optimization using the High-Resolution Settlement Layer (HRSL) - a proof of principle for the Oshana region, Namibia

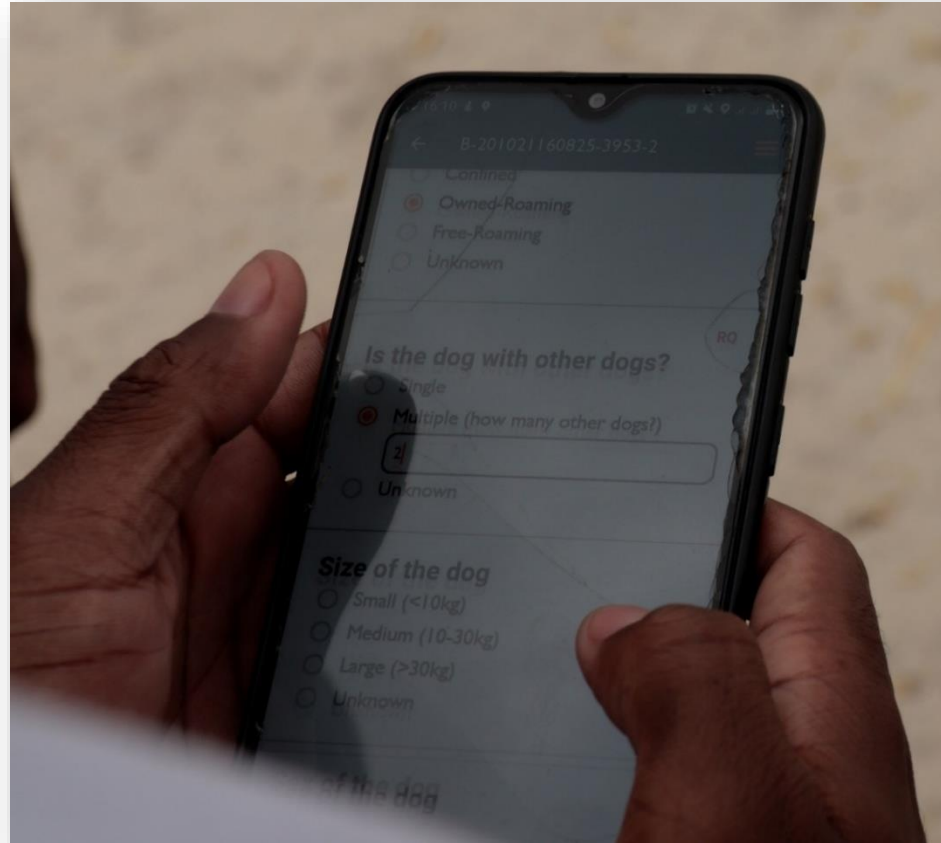
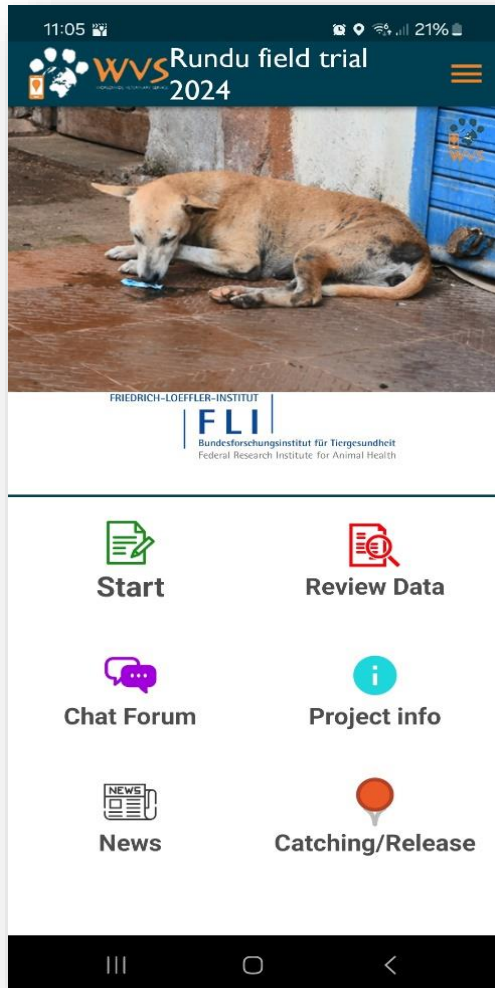


bioRxiv
THE PREPRINT SERVER FOR BIOLOGY



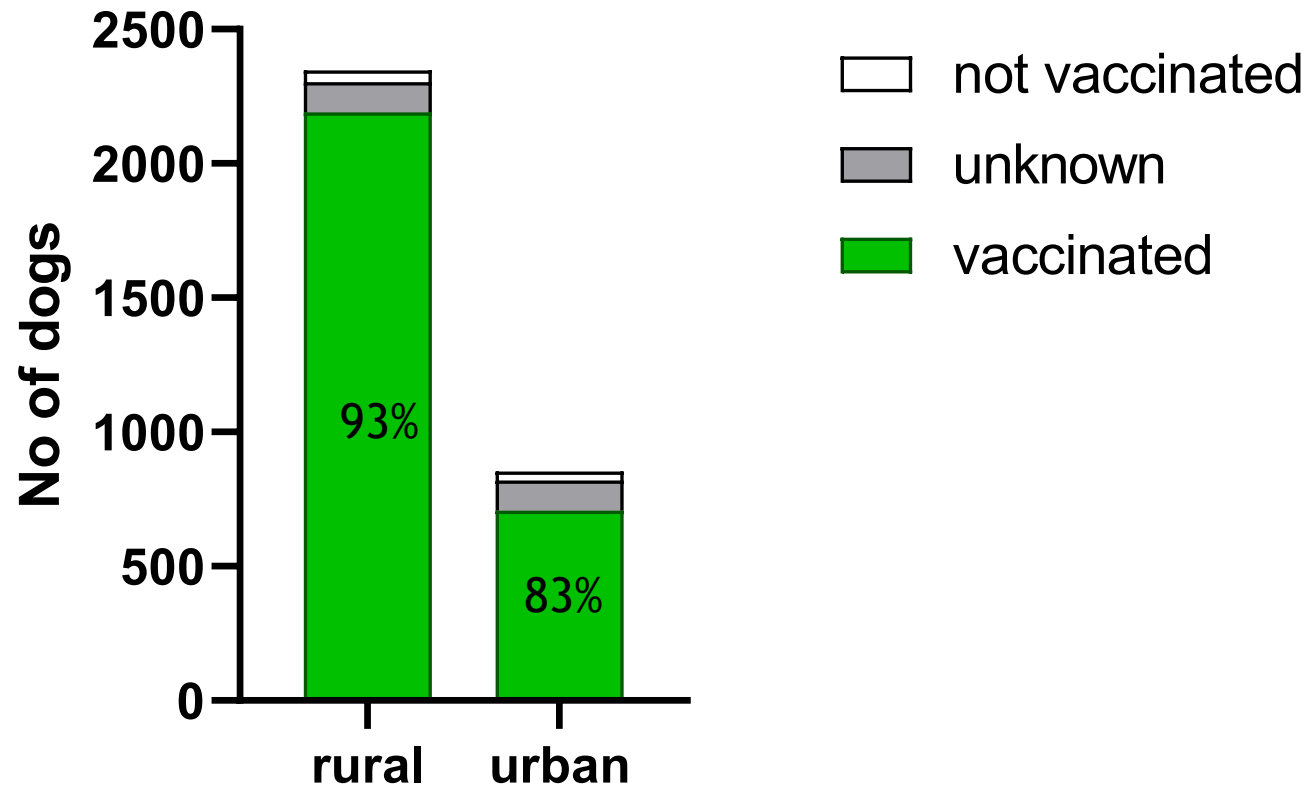
ORV of dogs - data capturing

mobile app / database

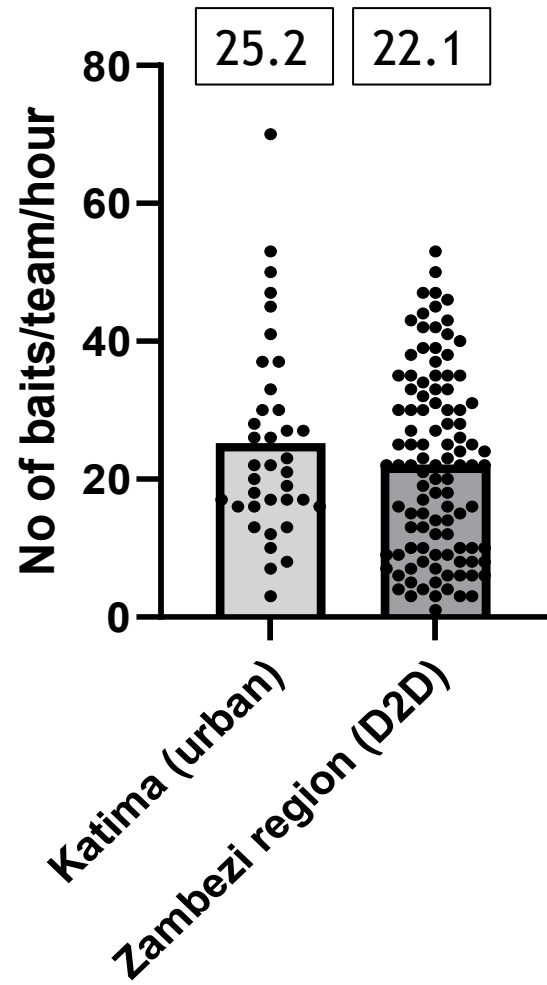


ORV field trial - Zambesi region 2022

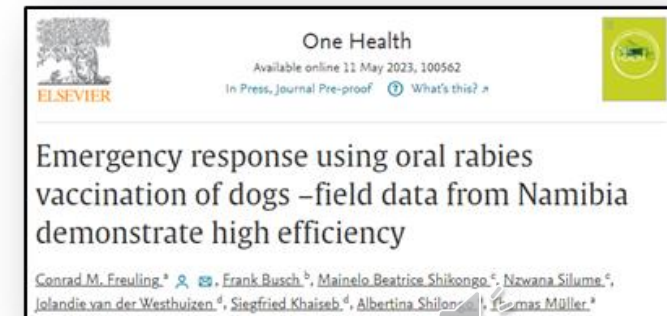
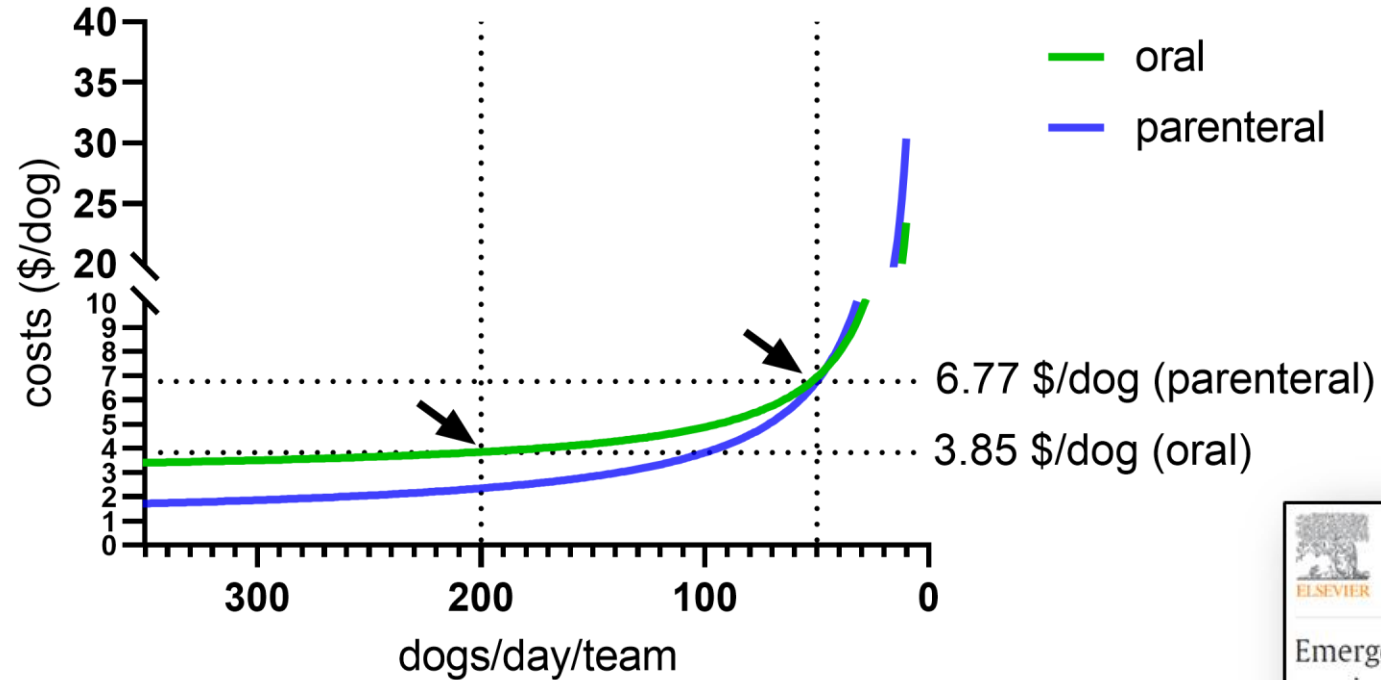
bait acceptance and vaccination



ORV field trial - Zambezi region 2022



ORV Zambesi - Results

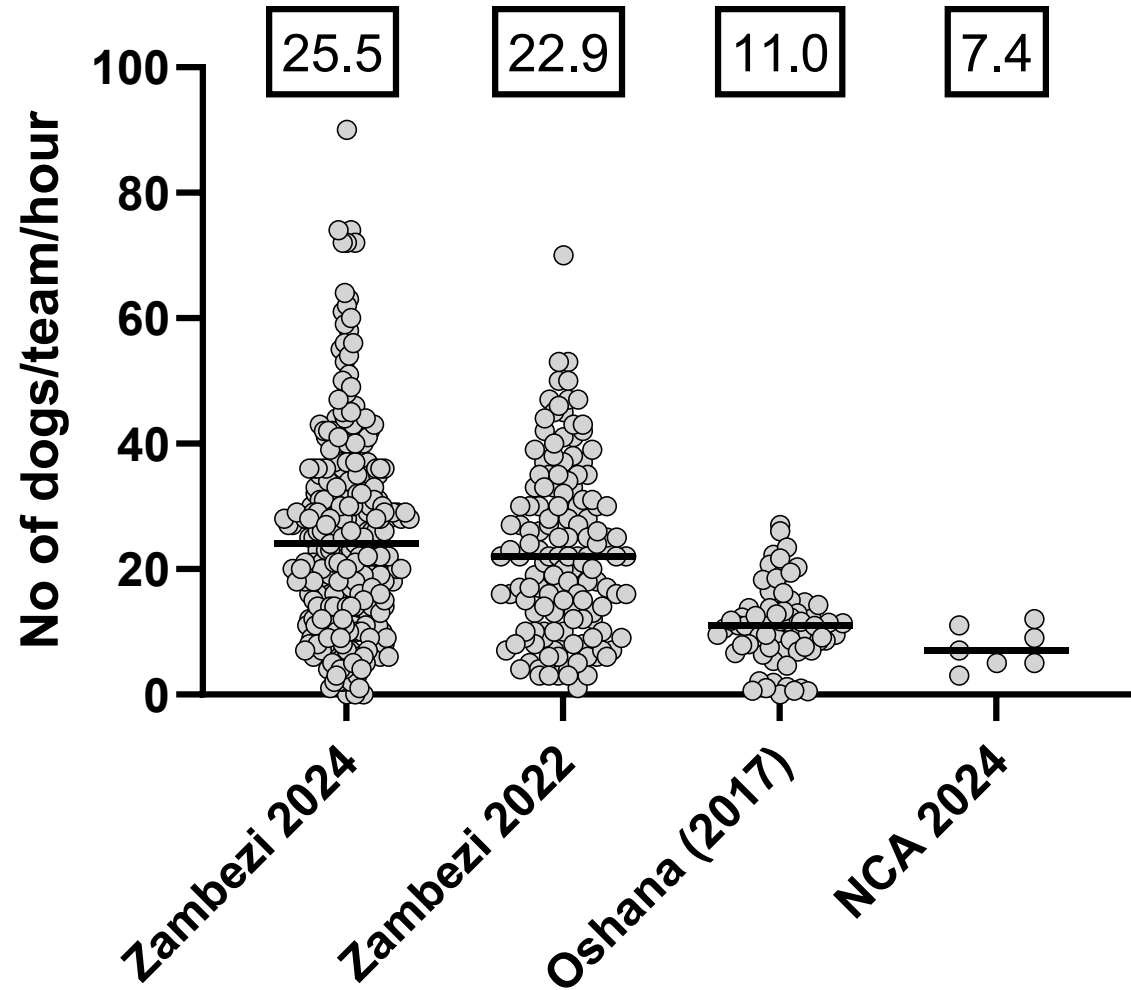


ORV Zambesi 2024 - Upscaling

- 10.000 baits Rabitec
- 10 teams a 2 persons
- Pick-up trucks
- ferry
- 4 (5) days

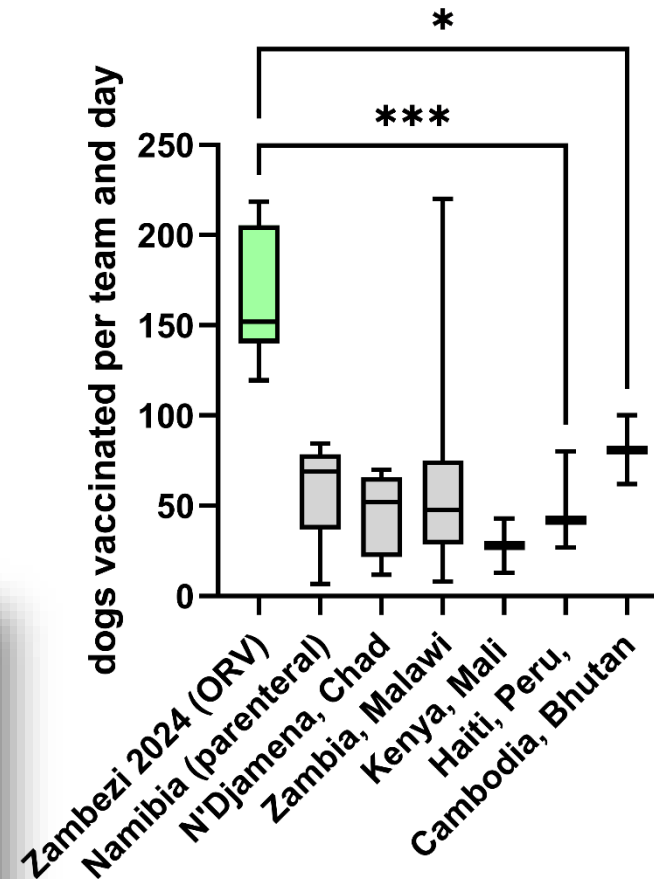


ORV Zambezi 2024 - Results



Data from the pilot vaccination in Oshana. 2017

ORV Zambezi 2024 - Results



scientific reports

OPEN [Evaluating the 2024 dog oral rabies vaccination campaign in the Zambezi region, Namibia using GIS and household surveys](#)

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ORV – implementation and integration

- Stakeholdermeeting 2025:
 - ORV to become integral part of control strategy!
 - All regions, but with limited number, i.e. prioritization on hard-to-reach dogs!

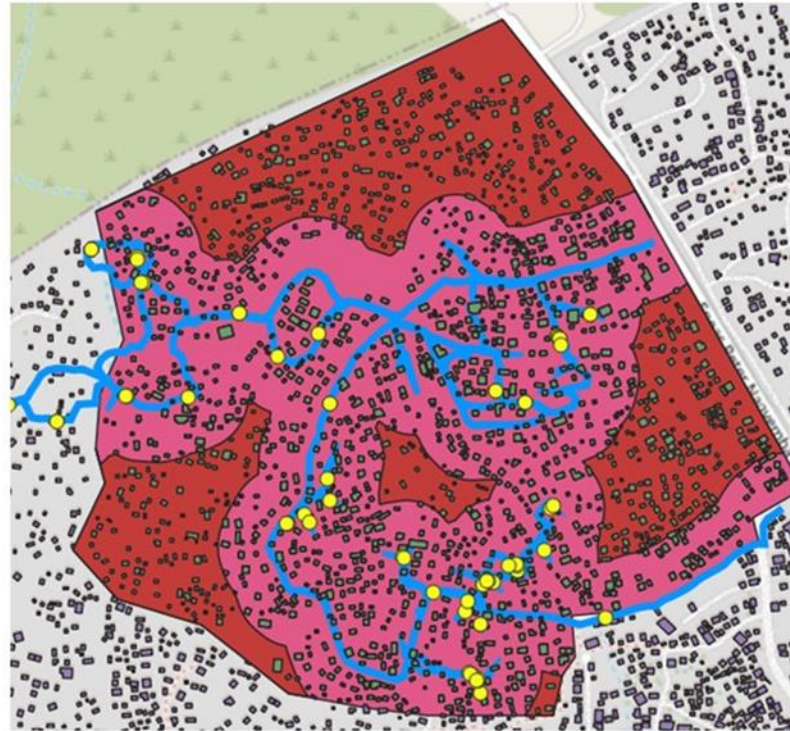


ORV – International workshop, Windhoek

- November 2025
- 40 participants, FAO, WOA, NGOs
- Theoretical background & practical application



ORV – International workshop, Windhoek



- 6,5 km distance walking/driving
- 1,65 km/h average speed
- Time needed (total): 3:55 h
- Actual movement 2:44 h
- 104 dogs vaccinated (27 dogs/h)

Spatial coverage

- Visited zone: 66% of target zone
- 1116 buildings within visited zone
- 1 dog/11 buildings
- 1755 buildings in zone 2
- 157 dogs estimated to be in zone 2
- Vaccination coverage: 64% (100/157)

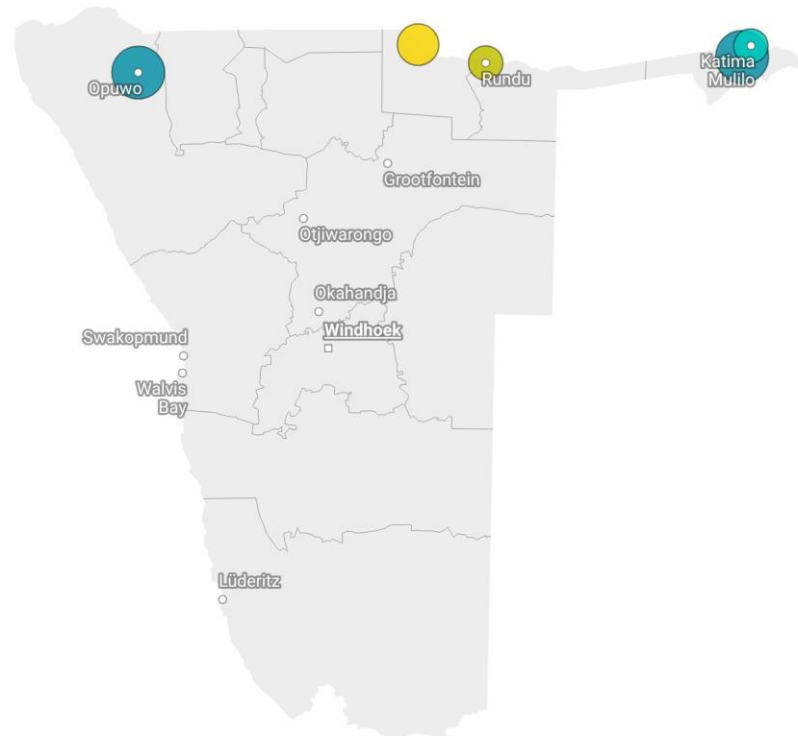


ORV – Plans for 2026

Planned ORV activities in Namibia

Field trial (ORV + parenteral) Field trial (decentralized bait distribution) Field trial (effectiveness)
Field trial (effectiveness)

No of baits



Created with Datawrapper

Operational research for the optimization of Oral Rabies Vaccination in Namibia

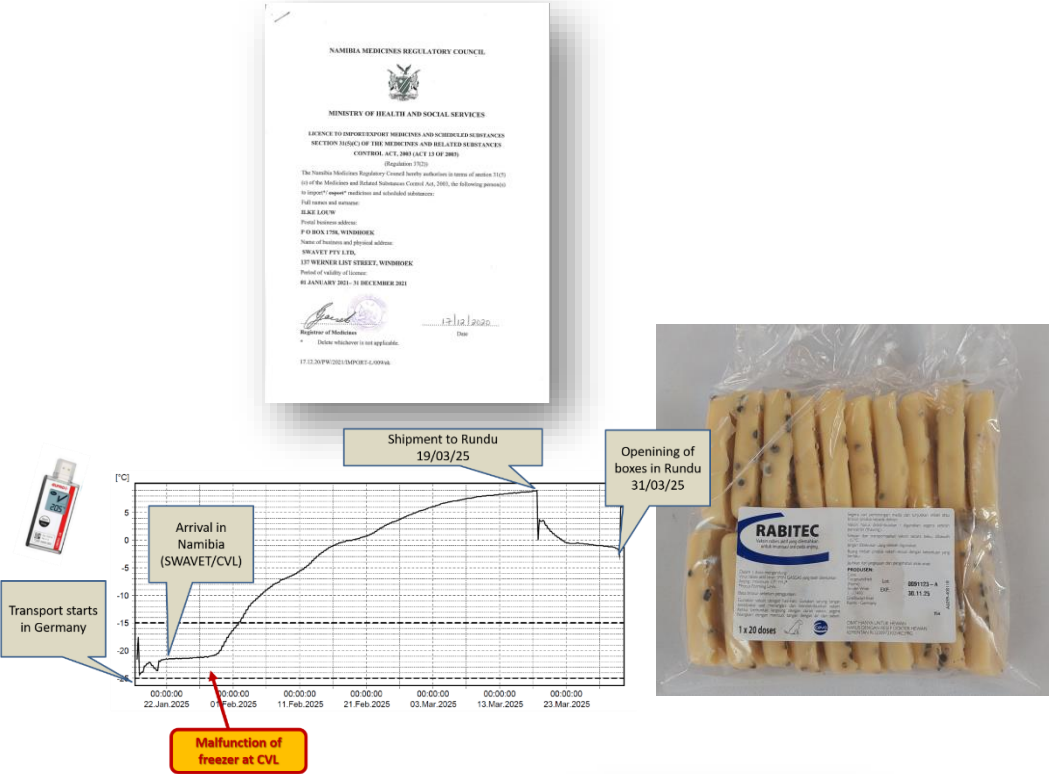
- Urban areas (Rundu, Katima Mulilo)
 - Analyzing the effectiveness and costs of ORV in urban areas by transect baiting via car and by walking
- Rural: Kavango West
 - Analyzing the effectiveness and costs of ORV only approach as opposed to a strategy where accessible dogs are given the parenteral vaccine.
- Kunene Region
 - Decentralized bait distribution



ORV – Pros and Cons

CON (Challenges)

- Delayed import permits, COVID, Malaria, Drought, FMD, Production capacity, Shelf life, Flooding
- Cold storage
- Bait material



ORV – Pros and Cons

PRO

- Support by CVO/Ministry
- SWAVET as importer
- Short term storage
- Acceptance by veterinary authorities, dog owners, dogs
- Ease of use - it's fun !!!!
- Immediate data access!



Acknowledgements



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Dr Joseph Kapapero



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