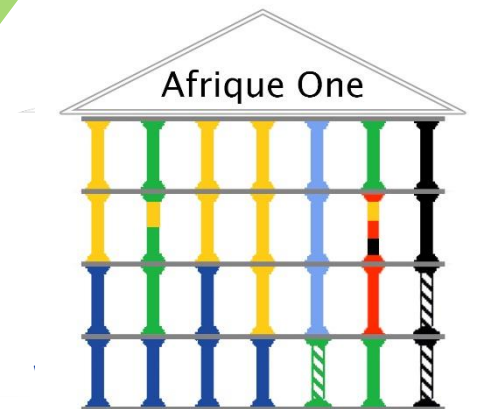


GLOBAL FRAMEWORK FOR THE ELIMINATION OF DOG-MEDIATED HUMAN RABIES

Coordination and implementation of Chad's national strategy for rabies control

United Against Rabies Stakeholder Meeting, Rome 6-8 November 2023.

Richard Ngandolo Bongo Naré; IRED BP 433, N'Djamena, Chad



Presentation Plan

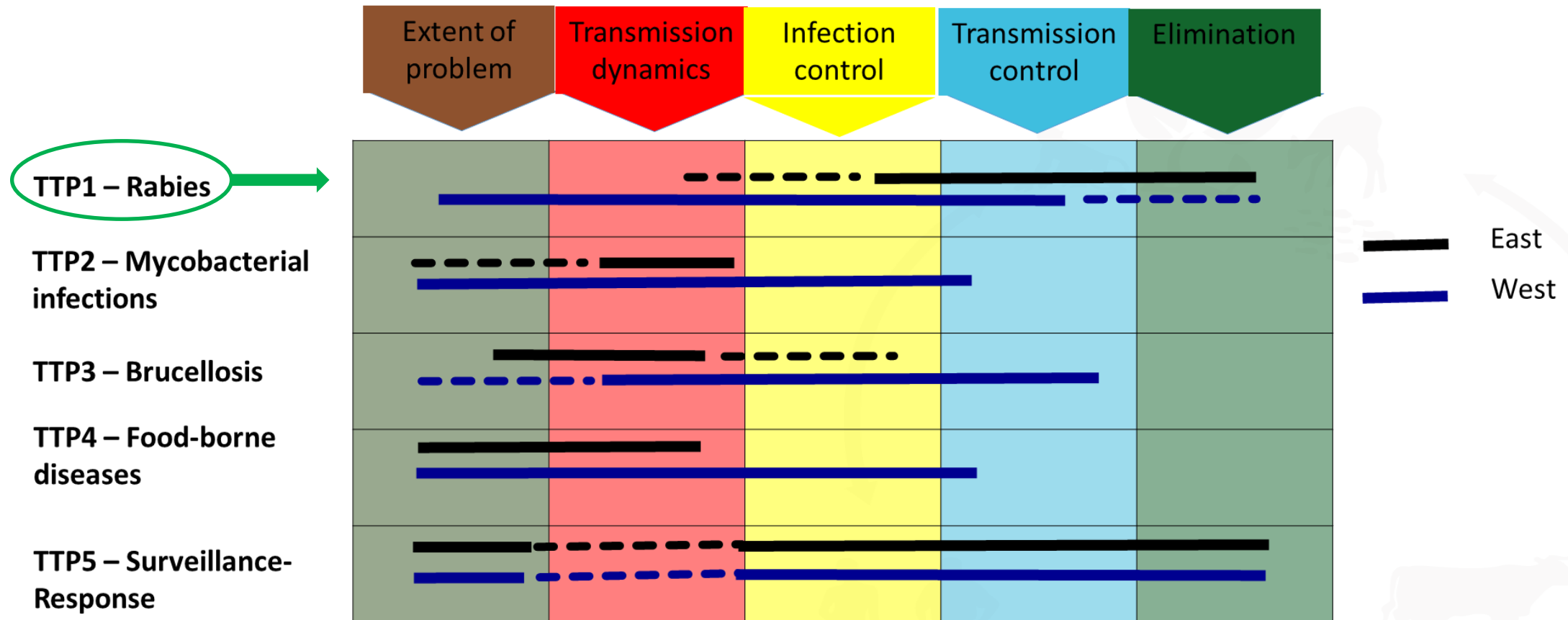


- **Chad: Geographical location,**
- **Science of elimination: Regional Approach,**
- **Overview: Highlighting the evidence,**
- **Rabies epidemiological background in Chad,**
- **The way forward to a National Strategic Action Plan,**
- **First Draft of the National Rabies Elimination Plan in Chad**
- **List of Publications.**

Chad: Geographical location



Science of elimination: Regional Approach



Adapted from Utzinger, 2012, Plos NTDs

Overview: Highlighting the Evidence



2001-2011: Canine rabies is endemic in N'Djamena with an annual incidence of 1.5/1000 dogs

- 2001-2002:
- Introduction of IFAT diagnostic technique at IRED (National vet lab),
- Canine Demographic Study
- Free pilot mass vaccination campaign (>70% coverage).

2005-2006:

- Introduction of DRIT diagnostic technique at IRED,
- **Pilot campaign paying 4USD (23% coverage).**

2008-2009:

- Estimated human rabies death from bite cases in N'Djaména: 7 deaths/year.

The five pillars of rabies elimination (STOP-R) / 1 SOCIO-CULTURAL /

The socio-cultural context influences rabies perceptions and dog-keeping practices of at-risk populations.

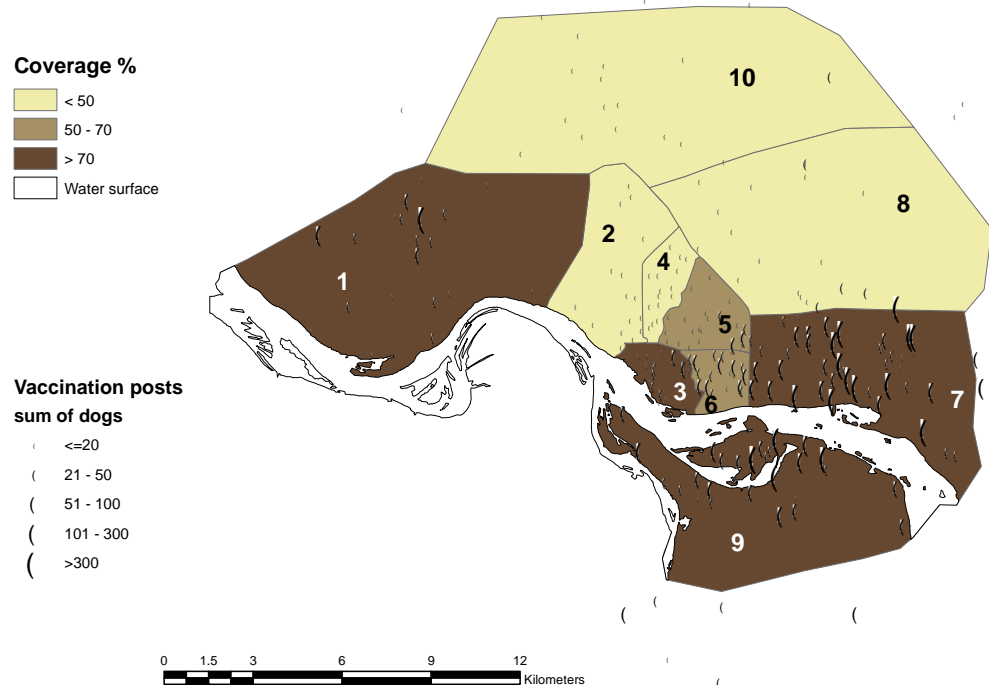
Overview: Highlighting the evidence



2011-2015: Organization of 2 mass vaccination campaigns and introduction of RDT in parallel with IFAT

Dogs vaccinated: 2012 = 18'182; 2013=21'340

- Dog rabies incidence before campaign = 0.7/1000
- **Dog rabies incidence after campaign = 0.07/1000**



Logistics was a challenge!

The five pillars of rabies elimination (STOP-R) / 2 TECHNICAL/

These systems must be strengthened and resourced appropriately, and gaps identified and filled.

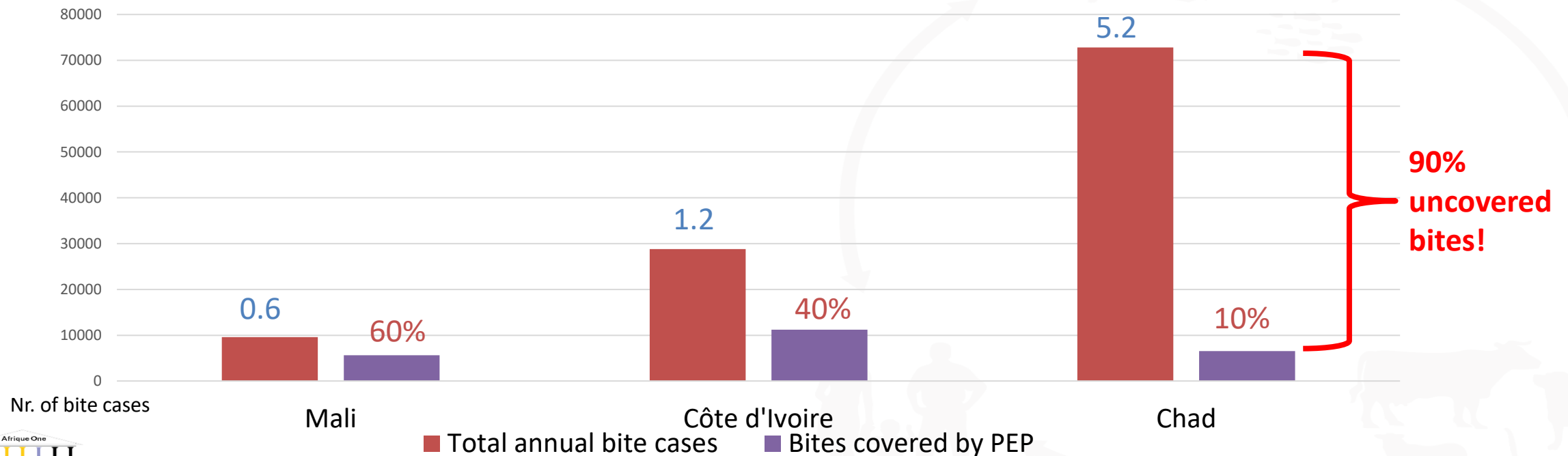
Overview: Highlighting the Evidence



2016-2018 GAVI funded project: Burden of rabies and human vaccine demand in West and Central Africa

Estimation of national annual number of bite cases (based on a survey in 8000 households in each country)

With annual bite case incidence/1000 person and % coverage



Overview: Highlighting the Evidence



- Other GAVI-project activities in Chad: Expanding rabies surveillance to other urban and rural areas
- 2018: Small scale project with pilot vaccination in Moundou, Logone occidentale province



Overview: Highlighting the Evidence



Since 2021 until end of 2024: SNF-funded project

« Multiscale transmission dynamics of rabies in Africa: The urban-rural interface »

Investigating alternative/additional interventions to dog vaccination for canine rabies control

→ Work package 1: Impact of ring vaccination around N'Djaména on dog rabies incidence in the capital

→ Work package 2: Impact of dog attachment intervention on dog rabies incidence in rural Moyen Chari province

Work package 2 implemented in collaboration with the Chadian national guinea worm program (GWEP/Chad) who is applying a strategy of prolonged dog attachment in villages with high occurrence of guinea worm in dogs.

The five pillars of rabies elimination (STOP-R) / 3 ORGANIZATION/

The One Health approach

Harmonization: Align work plans and activities with national and regional priorities and approaches fostering synergies among sectors.



Overview: Highlighting the Evidence



Political support: Political support is essential and most relevant during and following country instability (political upheaval, natural disasters, etc.): **Arrêté N° 7276/ PCMT/PMT: Portant Création, Attribution, Organisation et Fonctionnement de la Plateforme Nationale « One Health » au Tchad du 07 Septembre 2022.**

Regional engagement: Support active national and regional engagement and cooperation to commit to a rabies elimination programme and promote the exchange of lessons learnt and experiences to leverage resources and engagement: **NTD / “One Health” Project of OCEAC/CEMAC (Central Africa).**



The five pillars of rabies elimination (STOP-R) / 4 Political

Way forward to the National Strategic Action Plan

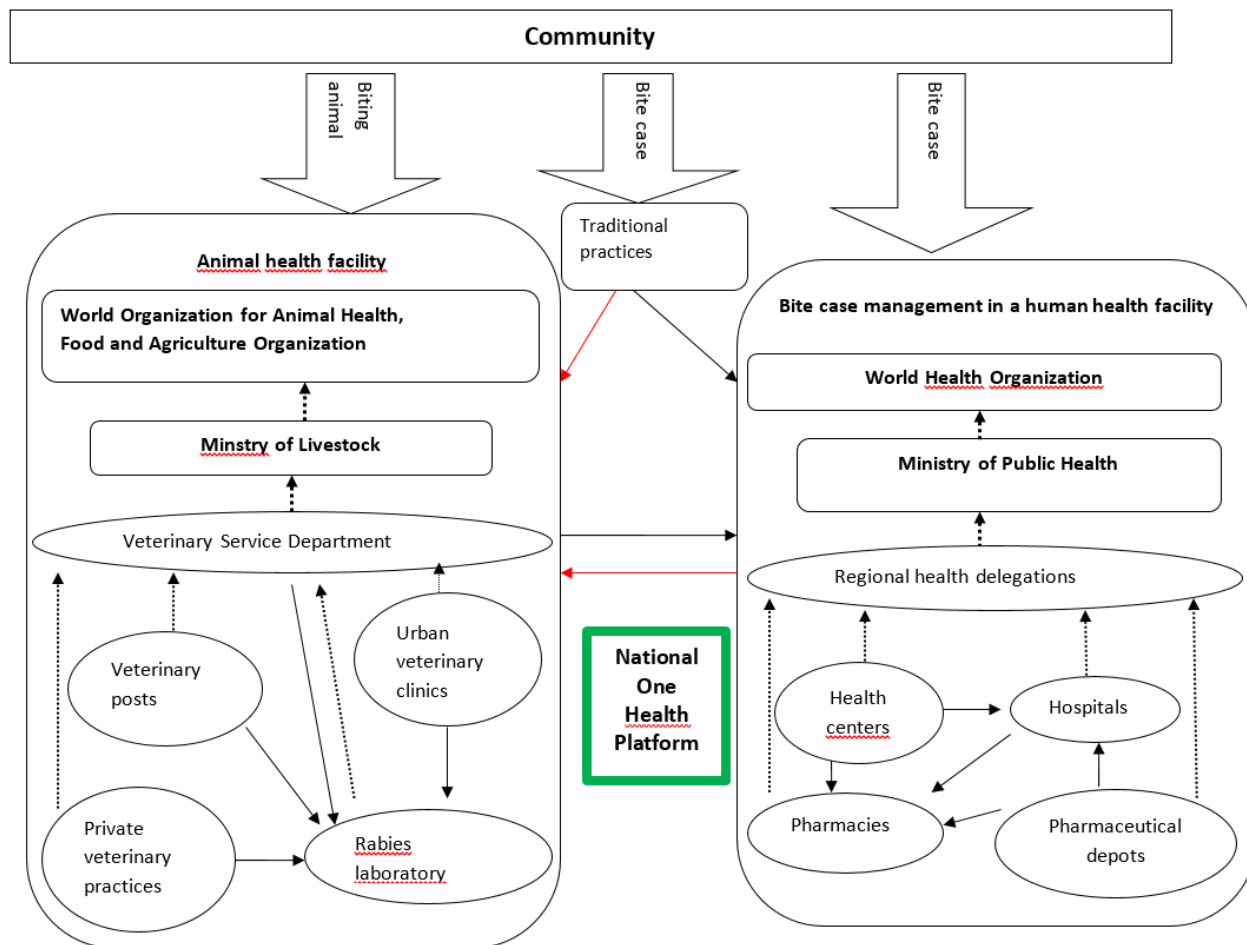


The five pillars of rabies elimination (STOP-R) / 5 Ressources

Business plans: To be prepared based on the Global Framework for Dog-mediated Human Rabies Elimination

- **Existing First Draft of the Chadian National Strategic Plan written by IRED;**
- Based on the Existing first Draft, IRED will submit a project to the call which will be lunched by OCEAC MTN/One Health founded by KFW:
 - Adapt the Existing National Strategic Plan to align with the Generic Template proposed by **United Against Rabies,**
 - The Lead will be the National One Health Platform in Collaboration With IRED and GWEP/Chad

National Rabies Elimination Action Plan in Chad: First Draft



Source: R. Mindekem 2017, Thèse en Santé Publique, N° 3

The five pillars of rabies elimination (STOP-R) / 5 Ressources

Rabies elimination activities frequently span several years and therefore require sustained, long-term support.

→ Need to promote the case for investment in dog-mediated human rabies elimination to persuade countries, policy makers and donors of the feasibility, merit and value of investing in rabies elimination strategies.

Integrate a budget line which will take into account the dog rabies elimination action plan in the annual subsidy from the Chadian State intended for the operation of the “One Health” National Platform for a long term commitment

Way forward to the National Strategic Action Plan



Business plan: To prepare based on the Global Framework for Dog-mediated Human Rabies Elimination.

Objectives:

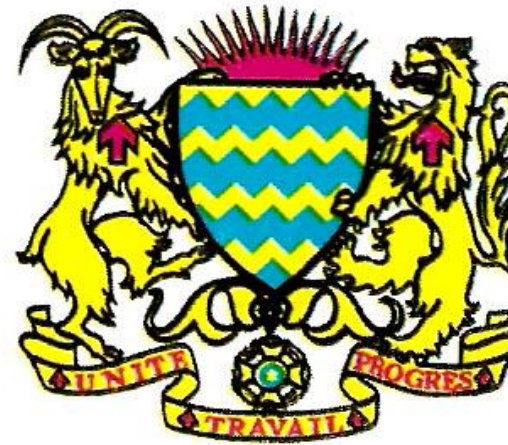
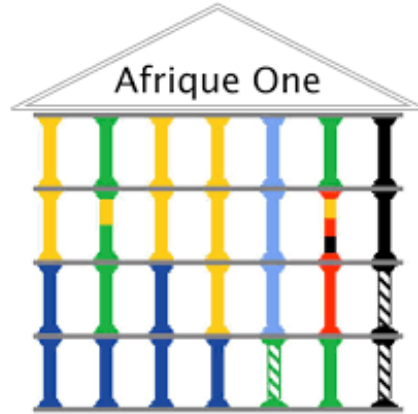
- Contract with National and International Experts,
- Meetings with all stakeholders in Chad (Central, Intermediate and Rural organizations),
- Organize workshops in order to finalize the formal first draft with all stakeholders,
- Organize National Workshop in order to validate the final National Strategic Action Plan document,
- Disseminate the National Strategic Action Plan through a National sensitization campaign piloting dog mass vaccination approach to cover more than 70% of the dog population,
- Presentation of the National Business Plan and its Budget to the Government within the frame of the National Platform in Charge of One Health / **Way forward to the long term commitment.**

List of Publications



- Madjadinan et al. 2022. '“When a dog bites someone”': Community and service provider dynamics influencing access to integrated bite case management in Chad', *Frontiers in Veterinary Science*, 9. <https://www.frontiersin.org/articles/10.3389/fvets.2022.866106/full>
- Mbaipago et al. 2022. 'General insights on obstacles to dog vaccination in Chad on community and institutional level', *Frontiers in Veterinary Science*, 9. <https://www.frontiersin.org/articles/10.3389/fvets.2022.866755/full>
- Léchenne et al. 2021. Increasing rabies data availability: The example of a One Health research project in Chad, Côte d'Ivoire and Mali. *Acta tropica* 215, 105808. <https://doi.org/10.1016/j.actatropica.2020.105808>
- Naïssengar et al. 2021. Challenges to improved animal rabies surveillance: Experiences from pilot implementation of decentralized diagnostic units in Chad. *Acta tropica*, 105984. <https://doi.org/10.1016/j.actatropica.2021.105984>
- Madjadinan et al. 2020. Identification of risk factors for rabies exposure and access to post-exposure prophylaxis in Chad. *Acta tropica* 209, 105484. <https://pubmed.ncbi.nlm.nih.gov/32304698/>
- Anyiam et al. 2017. Cost-estimate and proposal for a development impact bond for canine rabies elimination by mass vaccination in Chad. *Acta tropica* 175, 112-120. <https://www.sciencedirect.com/science/article/pii/S0001706X16305101>
- Mindekem et al. 2017 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. <https://doi.org/10.3389/fvets.2017.00038>
- Zinsstag et al. 2017 Vaccination of dogs in an African city interrupts rabies transmission and reduces human exposure. *Sci Transl Med* 9. <https://pubmed.ncbi.nlm.nih.gov/29263230/>
- Mbilo et al. 2017. Rabies awareness and dog ownership among rural northern and southern Chadian communities-Analysis of a community-based, cross-sectional household survey. *Acta tropica* 175, 100-111. <https://www.sciencedirect.com/science/article/pii/S0001706X16303606>
- Mindekem et al. 2017 Dynamique de la population canine et risque de transmission du virus de la rage dans les districts sanitaires de Laoukassy, Bénouye, Moundou et N'Djaména Sud au Tchad. *Revue du CAMES: Science de la santé* 5. <http://publication.lecames.org/index.php/sante/article/view/1136>
- Lechenne et al. 2016 Operational performance and analysis of two rabies vaccination campaigns in N'Djamena, Chad. *Vaccine* 34, 571-577. <https://www.sciencedirect.com/science/article/pii/S0264410X15016758>

Acknowledgement



Swiss TPH



Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
Institut Tropical et de Santé Publique Suisse



Needs of collaboration



Im am Looking for :

- A Thermocycler,
- PPD for in vivo bovine tuberculosis test
- MRS media for lactobacillus isolation
- M17 media for lactobacillus isolation
- Kit for DNA extraction