

## Dr Rauna Athingo

**For:** North Africa Regional meeting on dog-mediated rabies elimination: towards effective regional and national elimination strategies, Tunis, Tunisia, 24-25 July 2019



# Outline

- Introduction
- Rabies situation in Namibia
- Control program implemented
- Diagnostic and Surveillance facilities
- The Rabies control project inception and project activities implementation – 1<sup>st</sup> Phase (2016-2018)
- Campaign organization
- No of dogs cats vaccinated (cats)
- Impact of mass dog vaccination on rabies cases in animals and in humans
- Rabies Elimination project-2<sup>nd</sup> phase (2019-2021)
- Challenges and opportunities -Cross border problems

# The Republic of Namibia

## Background information

- Namibia in the world



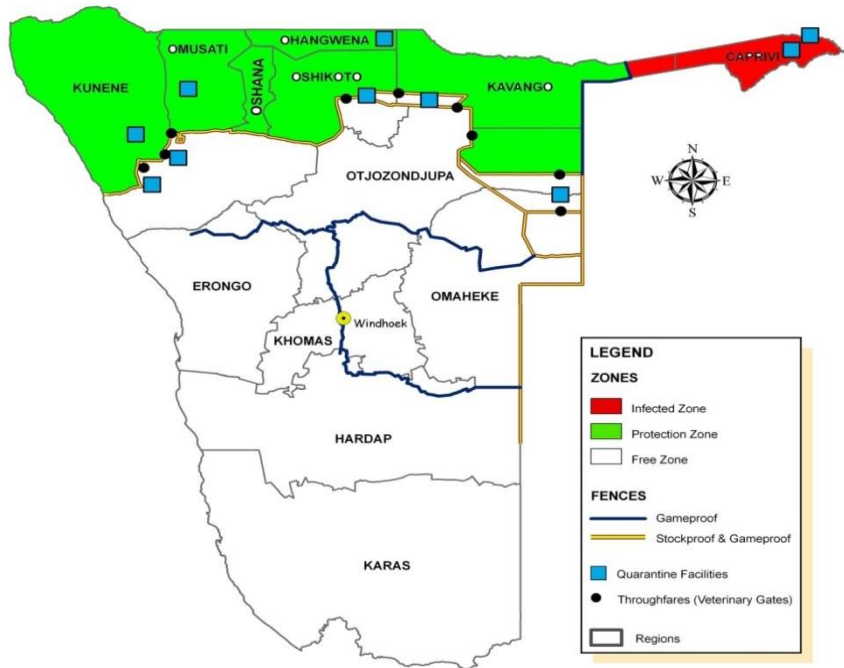
- Namibia is a large country **825,615 km<sup>2</sup>** with the second smallest population density globally- **2.6 person/sq. km.**
- Projected population 2.59 million people (NSA 2018)
- Majority lives in the Northern Communal Area (NCA)
- Namibia is ethnically diverse- over 11 ethnic groups and 22 different languages.
- It shares its borders with Angola, Botswana, South Africa, Zambia and Zimbabwe.



# Diseases status

## FOOT & MOUTH DISEASE (FMD) ZONES

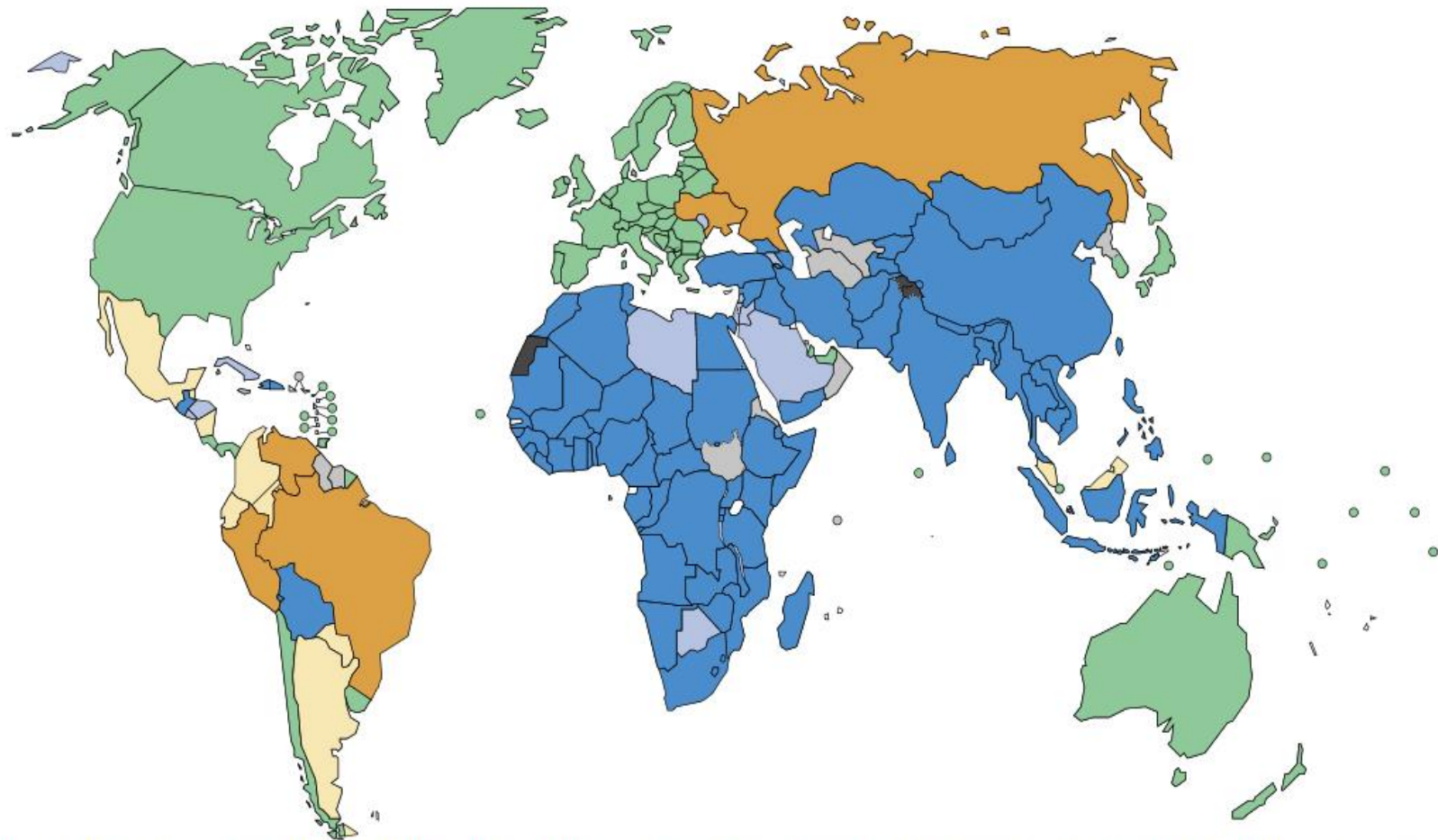
(With new Protection Zone)



- Foot and Mouth Disease Freedom without vaccination south of the Veterinary Cordon Fence (VCF)
- Lungsickness (CBPP) Freedom south of the VCF
- Peste des petits ruminants (PPR) Freedom south of the VCF and endorsed surveillance program in the NCA
- Negligible risk status for "Mad Cow Disease" (BSE)
- Endorsed Foot and Mouth Disease Control Programme
- Endorsed Lungsickness (CBPP) Control Programme
- Participation in international trade of animals and animal products to countries such as: European Union, Switzerland, Norway, Hong Kong, USA, Russia, South Africa, China **Zimbabwe**.
- **Rabies- by 2030??**

## Endemicity of dog rabies and dog-transmitted human rabies, 2016

Endémicité de la rage canine et de la rage humaine à transmission canine, 2016



- Endemic dog-transmitted human rabies: dog rabies and dog-transmitted human rabies present in the country – Endémie de la rage humaine transmise par les chiens: la rage canine et la rage humaine à transmission canine sont présentes dans le pays
- Endemic dog rabies: dog rabies in the majority of the country, but no dog-transmitted human rabies cases – Endémie de la rage canine: rage canine présente dans la majeure partie du pays, mais aucun cas de rage humaine transmise par les chiens
- Sporadic dog-transmitted rabies: dog rabies in few areas of the country with sporadic human cases – Cas sporadiques de rage transmise par les chiens: rage canine présente dans quelques zones du pays, accompagnée de cas humains sporadiques
- Controlled dog rabies: few cases of dog rabies in limited areas of the country but no dog-transmitted human rabies cases – Maîtrise de la rage canine: quelques cas de rage canine dans des zones limitées du pays, mais aucun cas de rage humaine transmise par les chiens

- No dog rabies: zero dog rabies and zero dog-transmitted human rabies cases (except from imported) – Absence de rage canine: aucun cas de rage canine et aucun cas de rage humaine transmise par les chiens (sauf cas importés)
- No information – Aucune information
- Not applicable – Sans objet

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. – Les limites et appellations figurant sur cette carte ou les désignations employées n'impliquent de la part de l'Organisation mondiale de la Santé aucune prise de position quant au statut juridique des pays, territoires, villes ou zones, ou de leurs autorités, ni quant au tracé de leurs frontières ou limites. Les lignes en pointillé sur les cartes représentent des frontières approximatives dont le tracé peut ne pas avoir fait l'objet d'un accord définitif.

# regions?

Hot spots for dog and human rabies

Population: 2.1million (NSA 2011) projected at 2.59 million (2018)

Country divided into 14 regions, 57% in the NCA

Number of centers of major economic activities

**Urban Rural ratio 43:57 (NSA 2011 )**



**263, 376 total sq. km**

Region	Census Proj.. 2018	Constituencies
Oshana	194 577	11
Oshikoto	200 686	10
Omusati	252 931	12
Ohangwena	260 190	11
Kunene	102 485	6
Kavango West	90 514	8
Kavango east	153 255	6
Zambezi	102 485	6
<b>Total</b>	<b>1,357 123</b>	<b>70 (64)</b>

# Rabies situation in Namibia

- Rabies is a notifiable disease in Namibia as per Animal Health Act 1 of 2011 – reporting of the disease to authority
- Recording of all relevant information on Disease Report Form (DRF) and submission to the Epidemiology
- Samples of incriminated animals are submitted to one of the competent laboratories
- Dog samples associated with a human bite.
- Dog bite cases and potential rabies exposures have to be reported to the nearest state veterinary official or public health official

# Diagnostic and Surveillance facilities

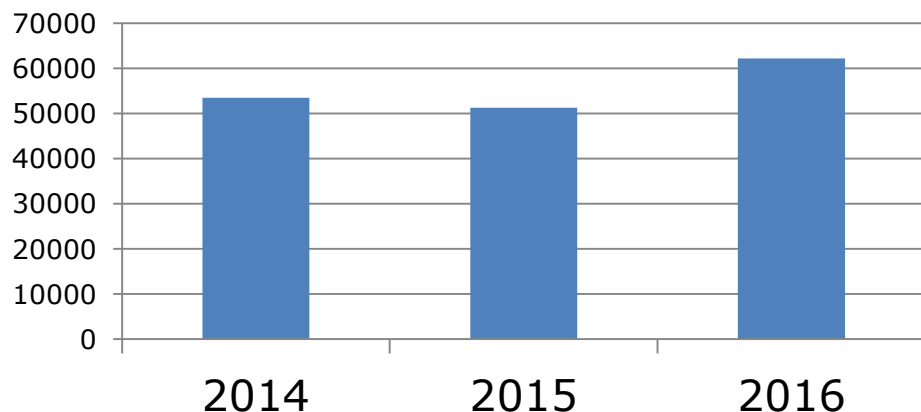
- ❖ Laboratory confirmed surveillance data:
  - Central Veterinary Laboratory and the Regional Laboratory (RL), Ondangwa.
  - Fluorescent Antibody Test (FAT) following WHO and OIE recommended protocols
  - Occasionally, DRIT additionally applied for rabies routine diagnosis at the CVL to provide validation
- Sometimes PCR



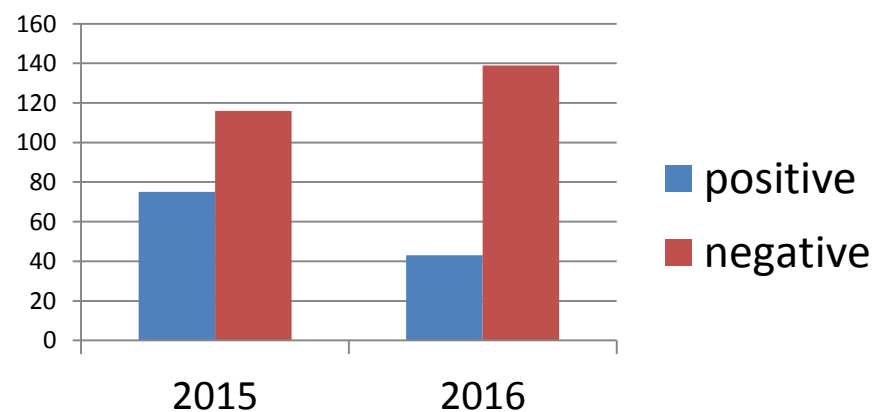
# Geographical distribution of dog rabies, Namibia, 2011-2018

Area	Number of cases	Percent (%)
Northern Communal Areas (NCAs)	630	92.5
South of Veterinary Cordon Fence (SVCF)	47	7.5
<b>Total</b>	<b>497</b>	<b>100</b>

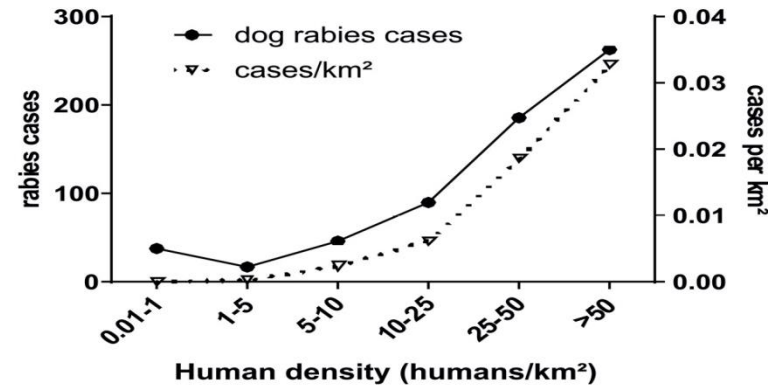
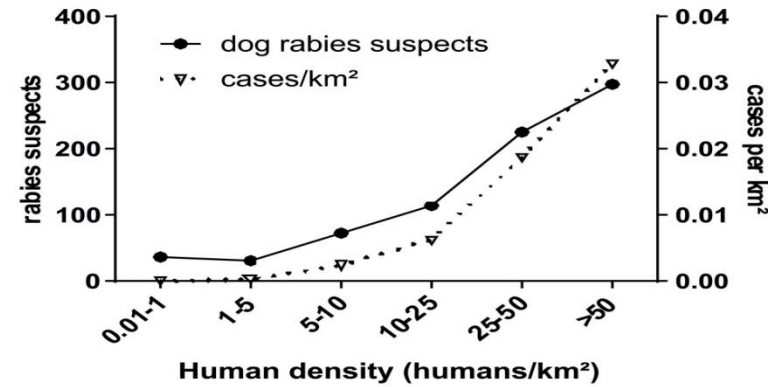
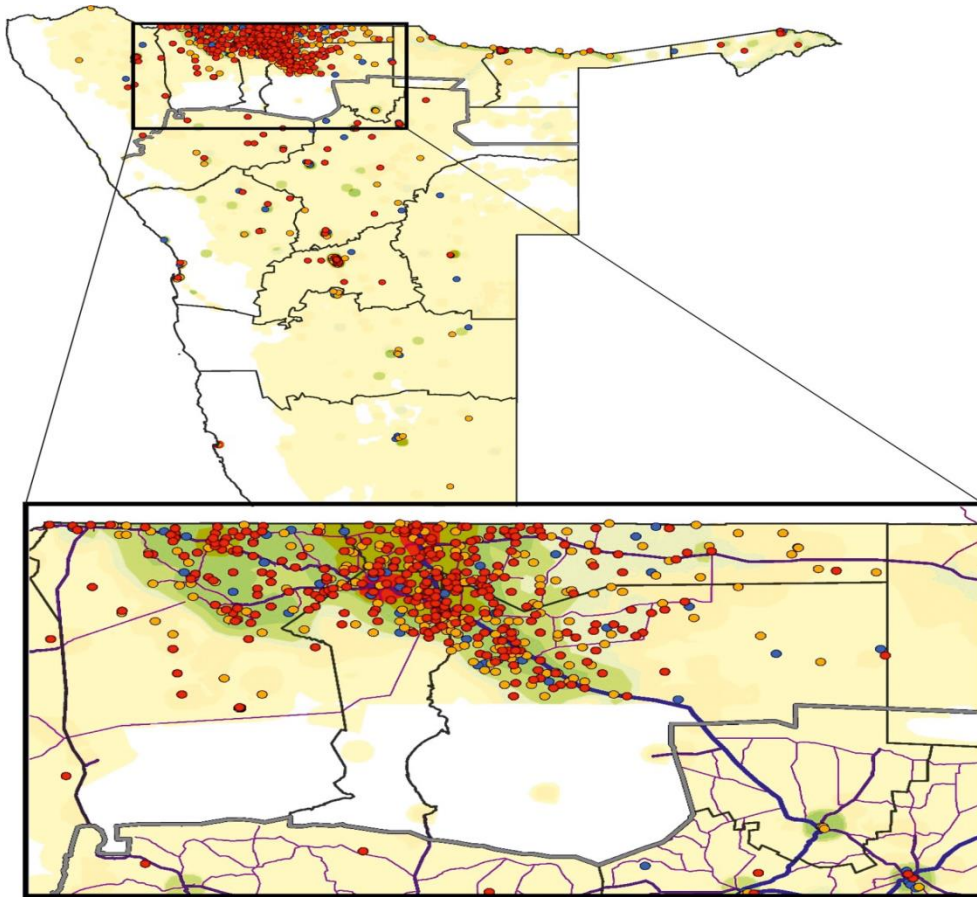
**Vaccination coverage 2014-2016**



**Dog samples tested for rabies from 2015 to 2016**

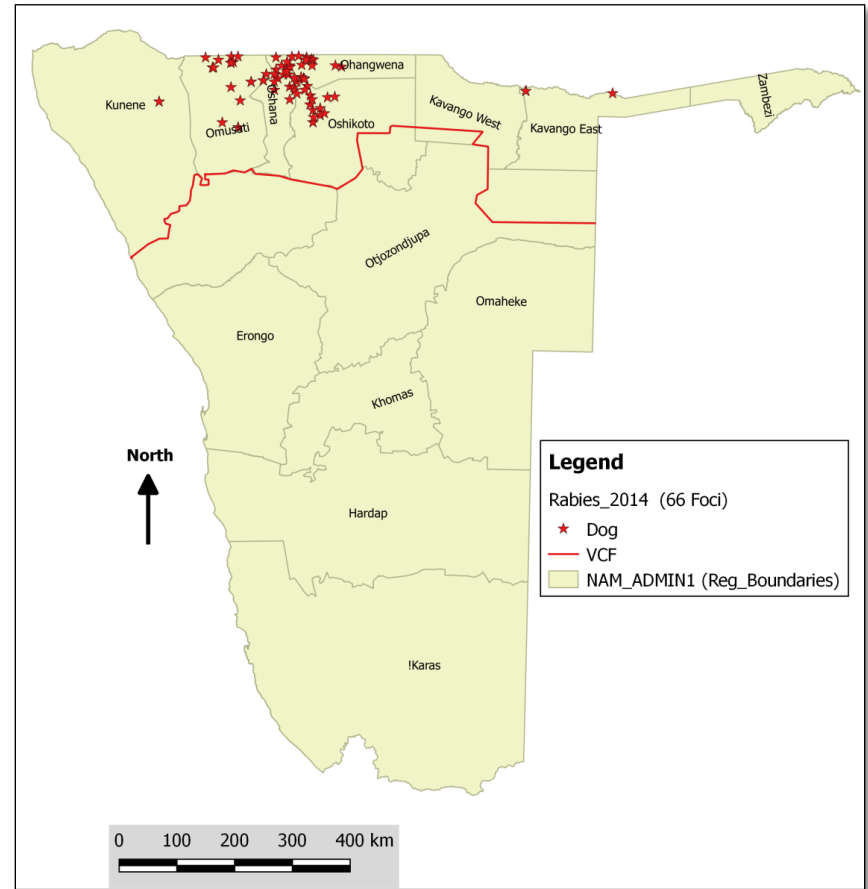
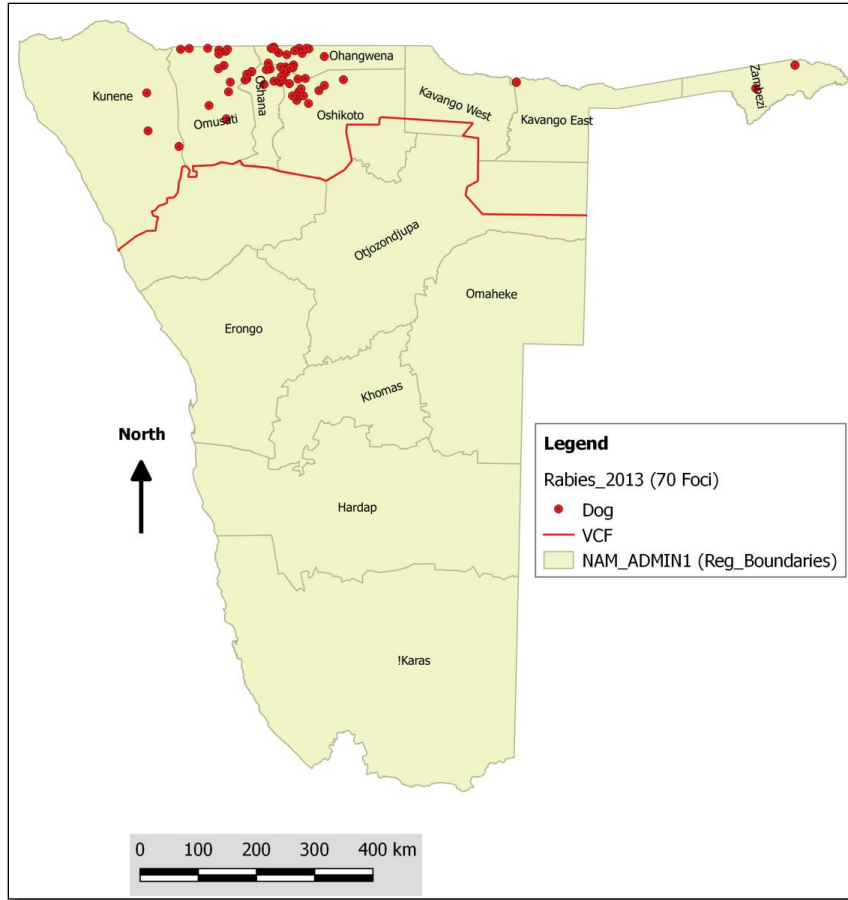


# Rabies surveillance in dogs 2011-2017

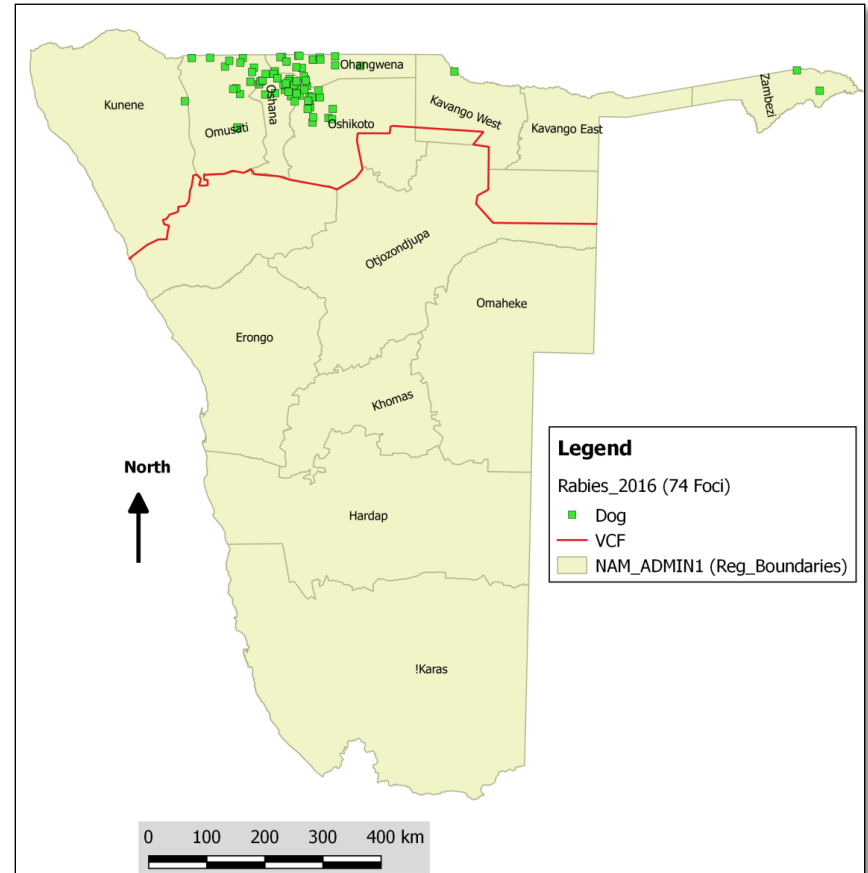
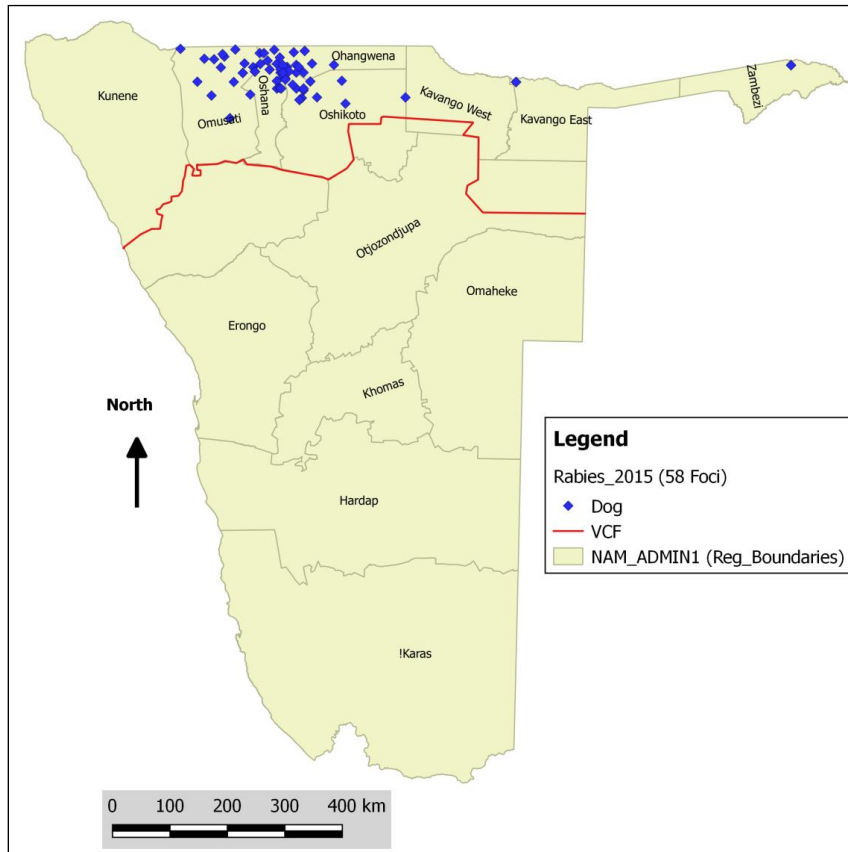


**Rabies cases (red dots)**  
**Reported rabies suspects (orange dots)**  
**dog samples tested negative (blue dots).**

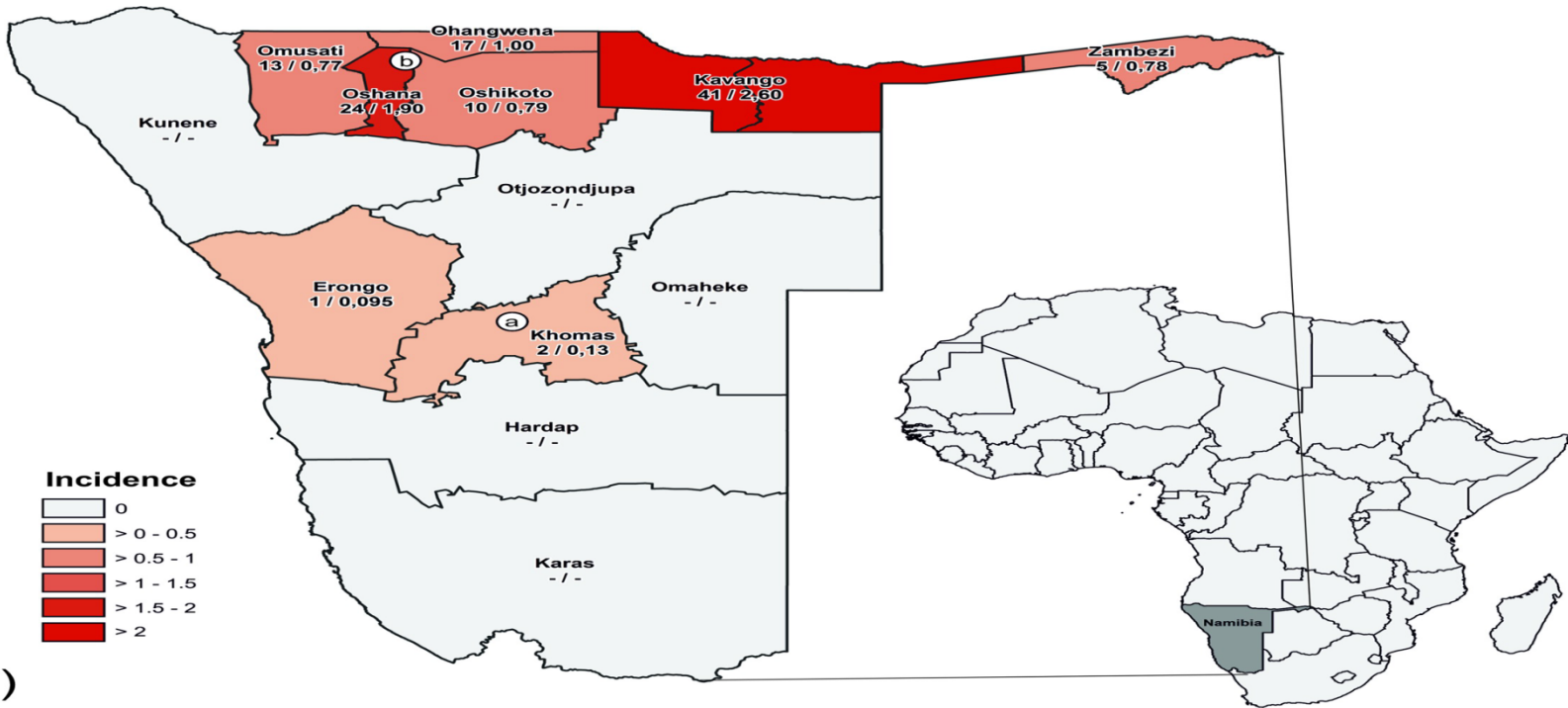
# Spatial distribution of dog rabies 2013-2014



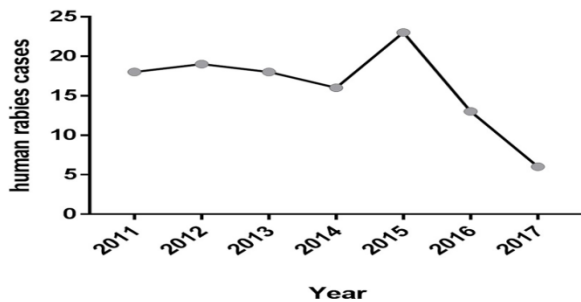
# Spatial distribution of dog rabies 2015-2016



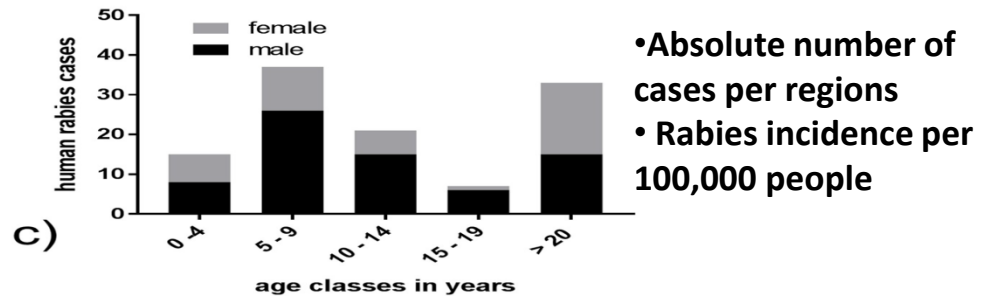
# Geographic distribution of rabies in Humans , 2011 – 2017



a)



b)



c)

# Geographic distribution of rabies in Humans , 2011 – 2017

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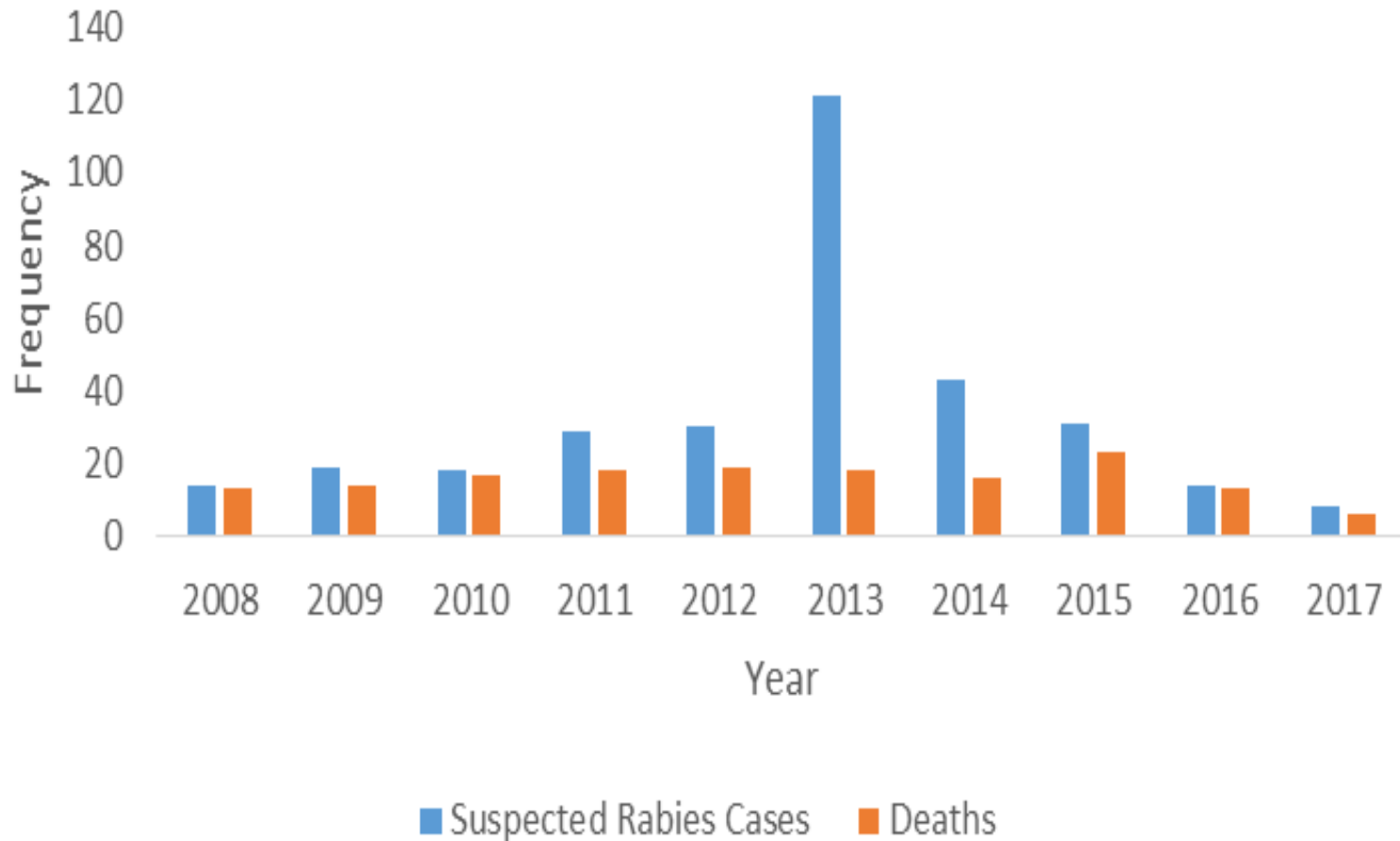
<b>Area</b>	<b>Number</b>	<b>Percent</b>
Northern communal Areas ( North of Veterinary Cordon Fence	<b>110</b>	<b>97</b>
Central and South of Namibia (South Of the Veterinary Cordon Fence )	<b>3</b>	<b>3</b>
<b>Total</b>	<b>113</b>	<b>100</b>

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# Age distribution among humans in Namibia, 2011 - 2017

Age group	Frequency	Percent
0 - 4 years (youngest 9 months)	15	13
5 - 9 years	37	33 65%
10 - 14 years	21	19
15 - 19 years	7	6
≥ 20 (oldest 80 years)	33	29
<b>Total</b>	<b>113</b>	<b>100</b>

## Suspected Human Rabies cases VS. Deaths in Namibia from 2008 - 2017

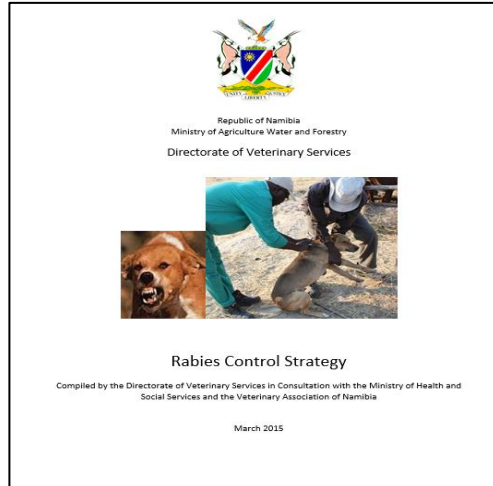




# Control program implemented

- Rabies is a Notifiable disease in Namibia as mandated under Animal Disease Act (Act 1 of 2011)
- Free Rabies control for nearly three decades
- Rabies cases are still on the increase in both animals and humans especially in the Northern Communal Areas (NCAs)
- National strategy translated into action plan for implementation

# The Rabies control project inception and project activities implementation – 1<sup>st</sup> Phase (2016-2018)



- National Strategy launched March 2015
- Launching of pilot control April 2016
- Rabies action plan formulation and implementation rabies activities implementation



# Objective of the strategy

## ➤ Immediate

- ❖ Decreased rabies cases in dogs

## ➤ Long term

- ❖ Elimination of dog mediated human rabies

## ➤ Key Elements

- ❖ Capacity building
- ❖ Mass dog vaccination campaign
- ❖ Education and awareness
- ❖ Stakeholders engagement
- ❖ Understand the knowledge, attitude and practice of people that could influence rabies control activities



# Local and International stakeholders engagements

- Traditional authorities
- Local authorities
- Regional councilors
- Ministry of Education
- Ministry of Health
- Ministry of Information, Technology and Communication
- University of Namibia- School of Public health and Faculty of Veterinary Medicine
- Veterinary Association of Namibia
- Law enforcement
- Welfare organization- SPCA
- MAWF
- Private sector/Business communities
- Farmers Union/Farmers
- OIE/FRG/FLI



# Why a need for stakeholders consultations?

- Seeking support during the project and thereafter
- Initiate permission to visit their area of jurisdiction
- Mobilize communities , promote the project and introduction to the communities
  - ❖ Took part during the selection of local casual labourers (communities participatory leading to project ownership)
  - ❖ Announcement of vaccination centres every day on national radio during the mass vaccination campaign
  - ❖ Waste management within towns, hospitals and open markets to avoid attracting stray dogs to free food
  - ❖ Promote responsible pet ownership



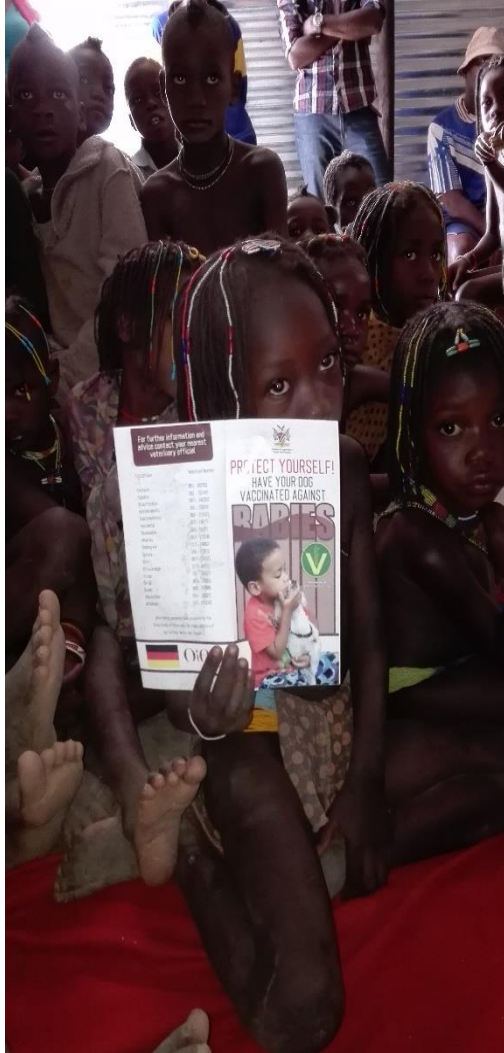
# Capacity building



# Rabies Education at school talks



# Awareness and Education



- Target children – 67% deaths children < 16 yrs
- Health promotion – key messages
- World Rabies Day
- Project education officer
- Education department





# Organized mass dog vaccination campaigns



house to house vaccination



fixed points



Team-led strategy with community participation

# Results- No of dogs vaccinated (cats) – Pilot phase 2016

- ❖ Usual vaccination figure 5,000-6,000,
- ❖ Targeted coverage 70% of **12,000**

## 1) First round Vaccination figures:

Species	#Vaccinated	Census	Coverage
Dog	24,638	<b>25,649</b>	96%
Cat	2,073	2,160	95%
<b>Total</b>	<b>26,711</b>	<b>27,809</b>	

# Results – Pilot 2016

## 1) Second round vaccination figures :

Species	#Vaccinated
Dog	12, 634
Cat	907
<b>Total</b>	<b>13, 541</b>

- ❖ **About 50% (6,368/12634) dogs vaccinated for the first time**
- ❖ **83% (5,286/6,368) are 6 months and younger**

# Results- NCAs 2017

- ❖ Usual vaccination figure 48, 850-60,211,
- ❖ Targeted coverage 70% of **104,071 (2016 dog population)**

## 1) Targeted Vaccination figures:

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Species	#Vaccinated
Dog	<b>61,195</b>
Cat	<b>6,484</b>
<b>Total</b>	<b>67, 679</b>

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## 2) Annual vaccination campaign figures:

- ❖ **42673** pets 90.5% (38, 619) dogs
- ❖ Total vaccinated dogs **99, 814**

❖ **Total pet vaccinated 110352**

# Results- NCAs 2018

## 1) Targeted Vaccination figures:

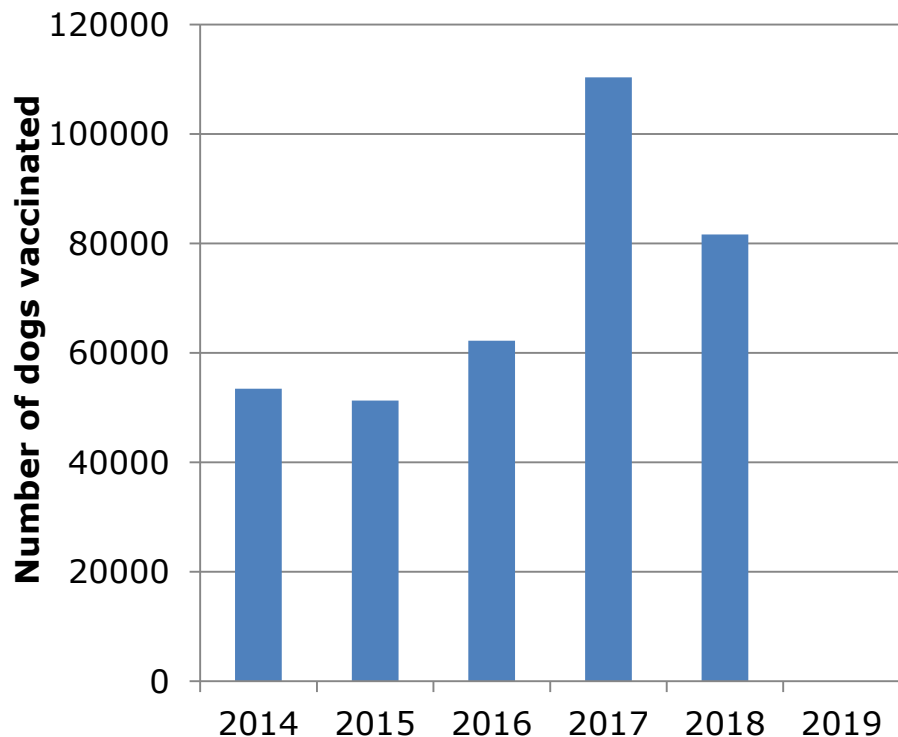
Species	#Vaccinated
Dog	38350
Cat	4865
<b>Total</b>	<b>43,215</b>

## 2) Annual Vaccination figures:

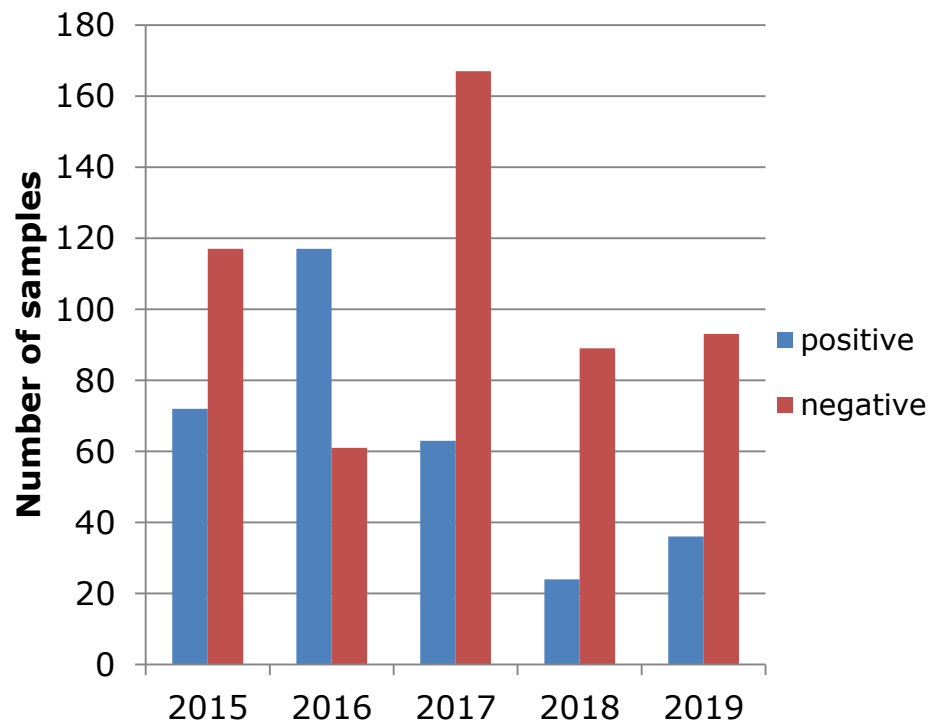
Species	#Vaccinated
Dog	34603
Cat	3845
<b>Total</b>	<b>38, 448</b>
<b>Total Vaccinated</b>	<b>81,663</b>

# Measured data for monitoring progress of rabies programmes

## Vaccinated dogs from 2014-2018



## Dog samples tested for rabies in 2015-2019



**Pilot phase 2016- increased campaign figures by 17%**

**Roll out 2017- increased campaign figures by 44%- 54%**

# Age distribution among dogs

Age group	N0. of dogs	Percent (%)	95% CI
0-3 months	461	19	
4-11 months	642	27	46%
1-3 years	802	34	
> 3 years	472	20	
Total	2,377	100	

# Age distribution, Ohangwena region, 20 – 30 August 2018

Age groups	# Vaccinated	1st time	Booster
0 - 6 M	1721	1689	32
7 M- 11 M	557 53%	536	21
1 - 2 years	837	602	234
3 - 5 years	902	449	453
> 5 years	268	110	158
Total	4,285	3,386 (79%)	899 (21%)



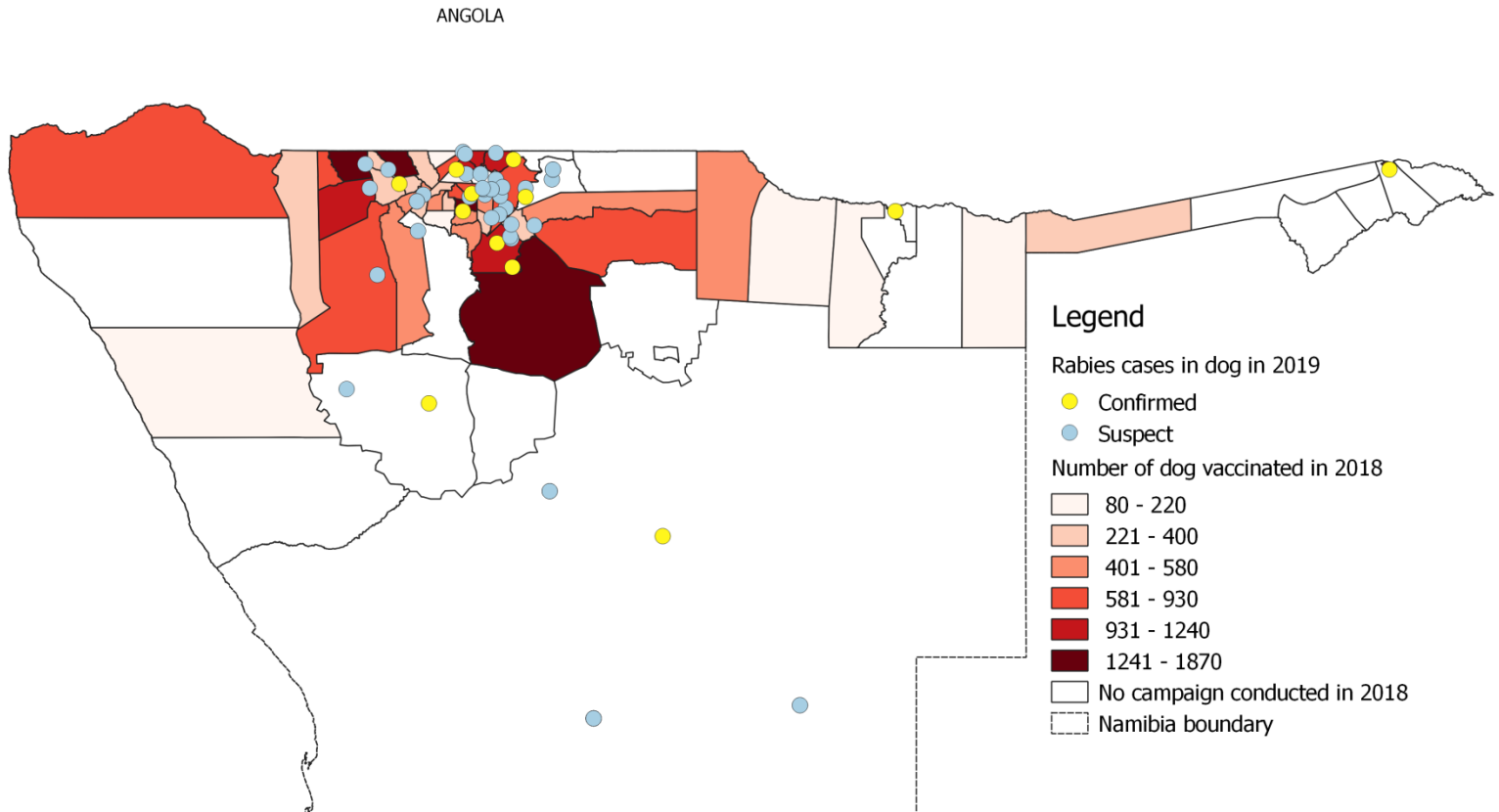
# Role of Human Health in rabies elimination

- Health education and promotion on rabies and prevention measures (Primary Health Care Directorate)
- Management of animal bite cases
  - PEP and Rabies Immunoglobulin (RIG) administration
  - Bite wound Management
- Surveillance of suspected human rabies case
- Detection and response to outbreaks in collaboration with veterinary sector and other relevant stakeholders
- Laboratory confirmation of suspected human rabies case (ante-mortem and post-mortem)

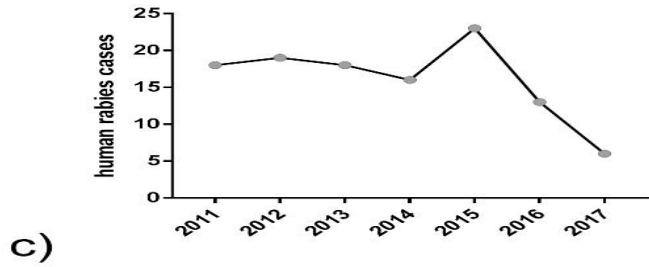
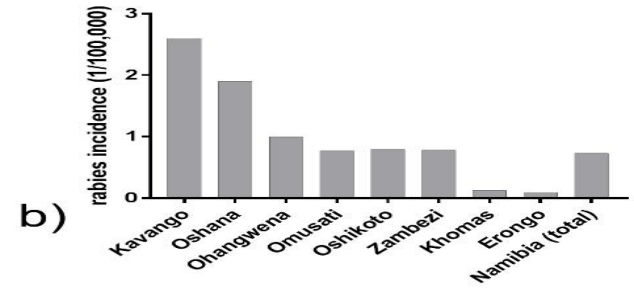
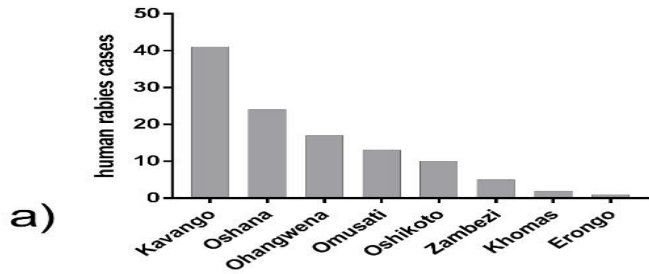
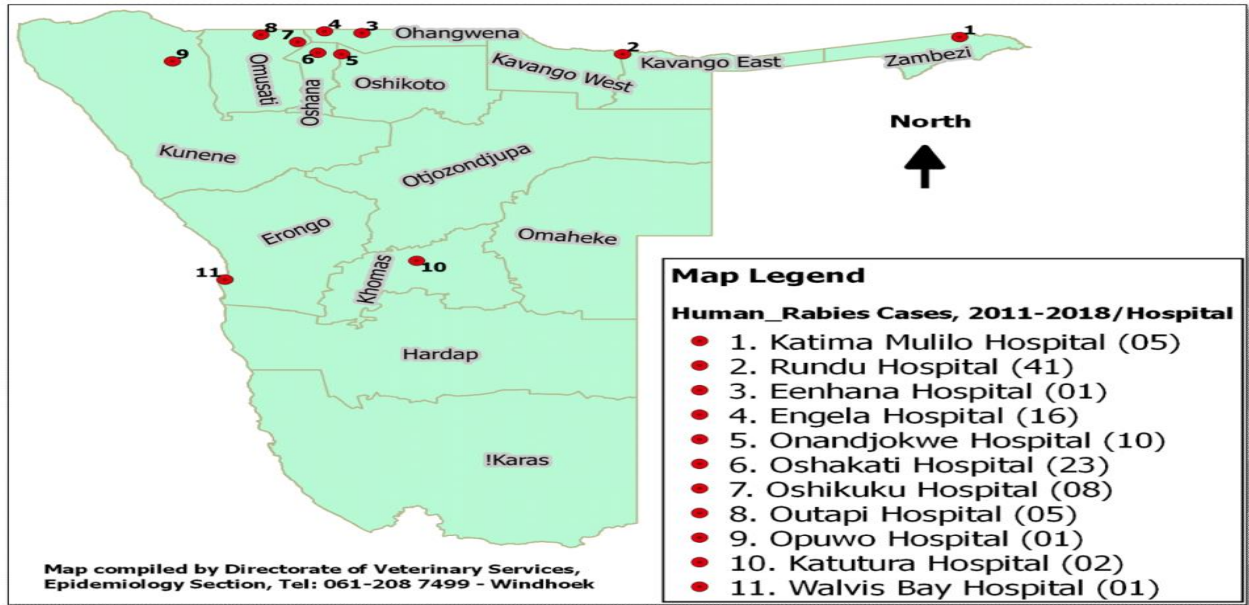
# **Impact of mass dog vaccination on rabies cases in animals**

- ❖ Increased number of dogs vaccinated (over 210,000 dogs)
- ❖ Marked reduction of dog rabies cases
- ❖ Marked reduction human rabies cases ( ZERO reported case in 2019)
- ❖ Improved veterinary performance services on rabies control:
  - Human resources capacity building
  - Enhanced rabies surveillance activities

# Impact of mass dog vaccination on rabies cases in animals



# Impact of mass dog vaccination on rabies cases in humans



# **Rabies Elimination project-2<sup>nd</sup> phase (2019-2021)**

## **❖ The main activities**

- 100 000 rabies doses-OIE through donor funding
- Improve capacity control dog-mediated rabies
- Mass dog vaccination campaign (August 2019 school holiday)
- Improve on data collection- data loggers (GARC)
- Survey- KAP, estimate dog population, socio- cultural and rabies burden
- Extend rabies education and awareness in regions
- Enhance rabies surveillance- FLI twining project (field test)
- Intersectoral coordination- Establishment of national Task force, Emergency Operational Centre -IBCM
- Cross border harmonization of rabies control program (Angola)
- Documentation of project activities

# Strength/Achievements

- Political commitment and support
- Stakeholder and public engagement and participations
- Integrated National program
- International support (OIE, Donor funds)
- Rabies advocacy using various platforms



**OSHANA SPCA**  
**DIP-A-DOG DAY!**  
**ONGWEDIVA**

Is your dog doing this? **Then bring your dog to the Dip-a-Dog Day!**

**WHEN:** Saturday, 8 December 2018  
**TIME:** 10:00–14:00  
**WHERE:** Big Marula Tree opposite Bennie's Park  
Mandume Ndemufayo Road  
Ongwediva

**N\$ 5 Donation for a dip against ticks & fleas!**  
**FREE deworming and rabies vaccination with Ministry of Veterinary Services**  
**All dogs MUST be on a leash or in a cage!**

Oshana SPCA (Society for Prevention of Cruelty against Animals)  
Okaandje Village, Omusheshe, Ongwediva  
Cell: 0812268689 E-mail: oshana-spc@gmail.com Facebook: <https://www.facebook.com/oshanaspcal>



# Challenges and opportunities

- ❖ Vast territory
- ❖ Porous border
- ❖ Secure funding and sustain (APP and AWP)
- ❖ Timing of vaccination campaigns
- ❖ Nomadic lifestyle of people moving in search of grazing areas
- ❖ Possible disease outbreak coinciding in some regions
- ❖ Surveillance mostly depends on reporting from community and samples presented to local hospitals, hence inter-sectoral collaboration very crucial
- ❖ Inconsistence on data collection and reporting
- ❖ Population dynamics of dogs
- ❖ Stray dogs management for vaccination
- ❖ strengthen one health approach
- ❖ improve on resources allocation
- ❖ Campaign evaluation and implement the cost effective strategy
- ❖ improve on vaccination campaign monitoring (use better tools to evaluate vaccination campaign)
- ❖ improve on integrated surveillance (IBCM)
- ❖ Transboundary coordination

# Acknowledgement

- OIE sub-regional representative office for funding my attendance to the North Africa meeting