



# Rabies: overview in North Africa

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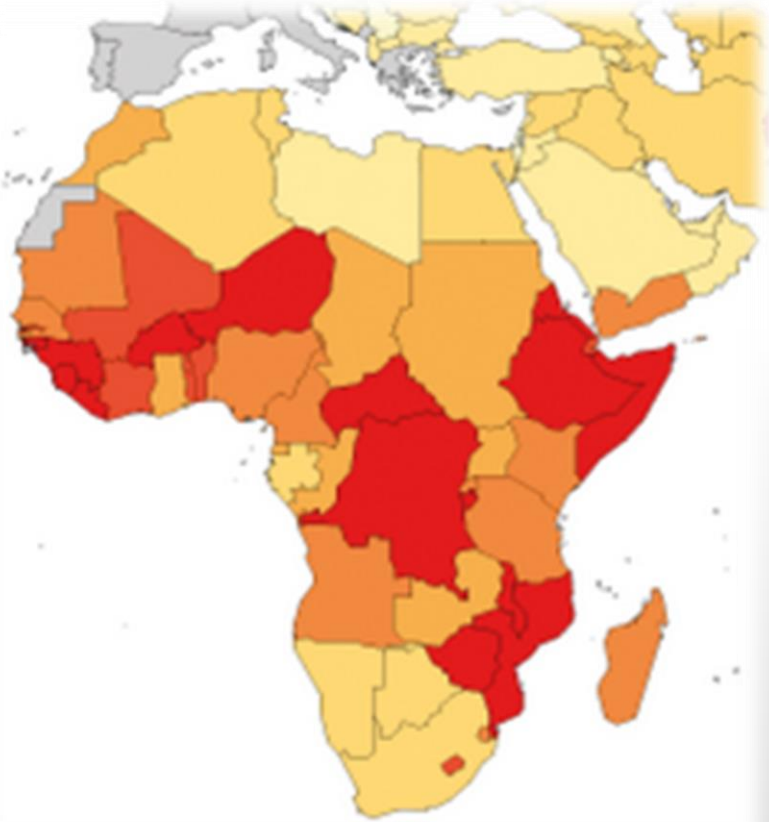
*Workshop: North Africa Regional meeting on dog-mediated rabies elimination: towards effective regional and national elimination strategies*

**Tunis, Tunisia (24-25 July 2019)**

# **RABIES:** ***HUMAN DEATHS IN AFRICA***

Between  
21,000–25,000  
human deaths  
occur each year in Africa  
due to dog-mediated  
rabies

# Rabies epidemiology in Africa



Death rates per capita (per 100 000 population); countries shaded in grey are free from canine rabies (TRS 3rd report, 2017)

Source - WHO:

<https://www.who.int/rabies/epidemiology/en/>

❑ Africa is estimated to spend the least on PEP and

❑ have the highest cost of human mortality.

*Surveillance systems were deemed ineffective in at least 16 of the 23 African countries that responded to a survey*

**PLOS** | NEGLECTED TROPICAL DISEASES

BROWSE PUBLISH ABOUT

OPEN ACCESS

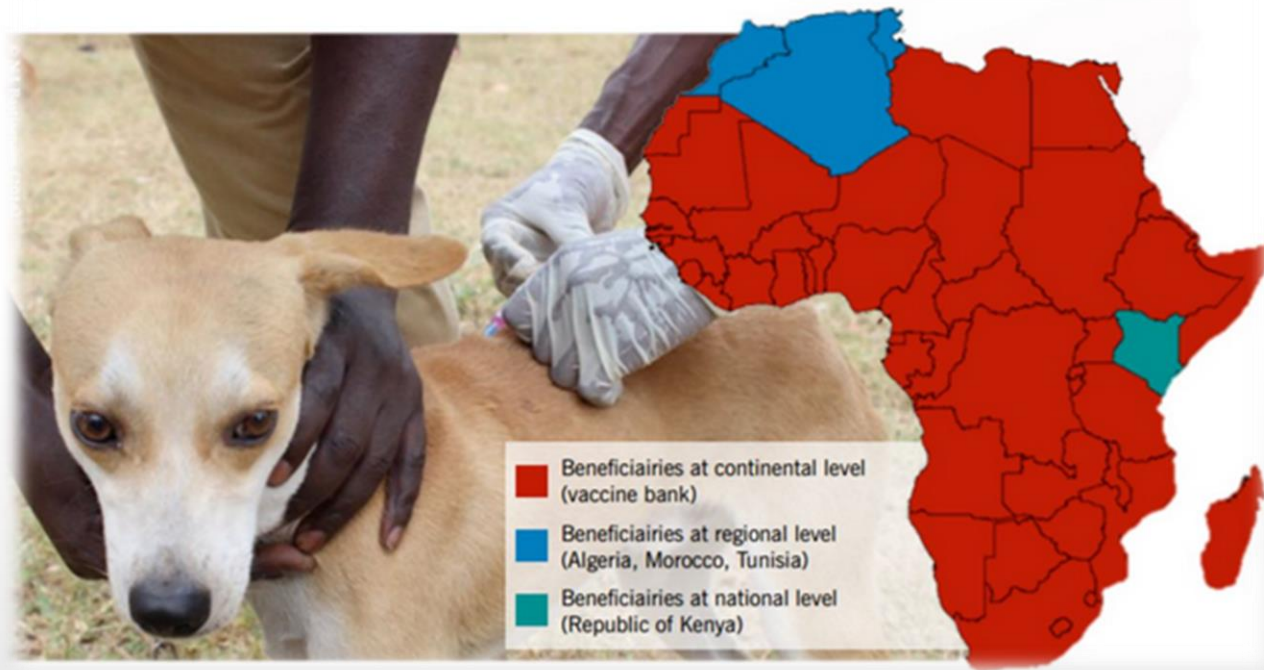
VIEWPOINTS

**Bolstering human rabies surveillance in Africa is crucial to eliminating canine-mediated rabies**

Anais Broban, Mathurin C. Tejjokem, Issaka Tiembré, Sophie Duellies, Malina L'Azou

Published: September 6, 2018 • <https://doi.org/10.1371/journal.pntd.0006367>

# The Strengthening Veterinary Services in Developing Countries (SVSDC) + R



The SVSDC Project supports the efforts in Africa to eliminate dog mediated human rabies at three levels:

- National (Kenya)
- Regional (Algeria, Morocco and Tunisia)
- Continental (OIE Rabies Vaccine Bank for Africa)

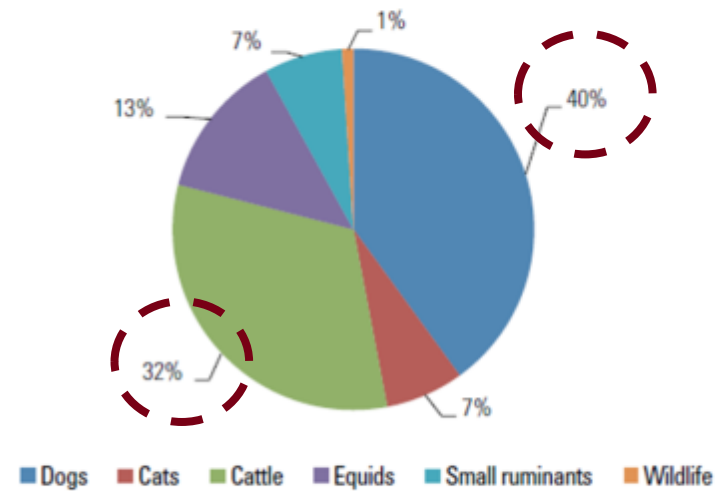
# Overall picture of Rabies (Algeria, Morocco and Tunisia)

Examen de la rage et de son contrôle en Afrique du Nord :  
situation dans la région



**Fig. 1**  
Total number of human rabies cases in Algeria, Morocco and Tunisia between 2005 and 2013

Source: World Organisation for Animal Health (OIE), World Animal Health Information System (WAHIS)–World Animal Health Information Database (WAHID)



**Fig. 2**  
Percentage of rabies cases in animals by species in the North African region in 2012

Source: World Organisation for Animal Health (OIE), World Animal Health Information System (WAHIS)–World Animal Health Information Database (WAHID)

# Rabies Morocco

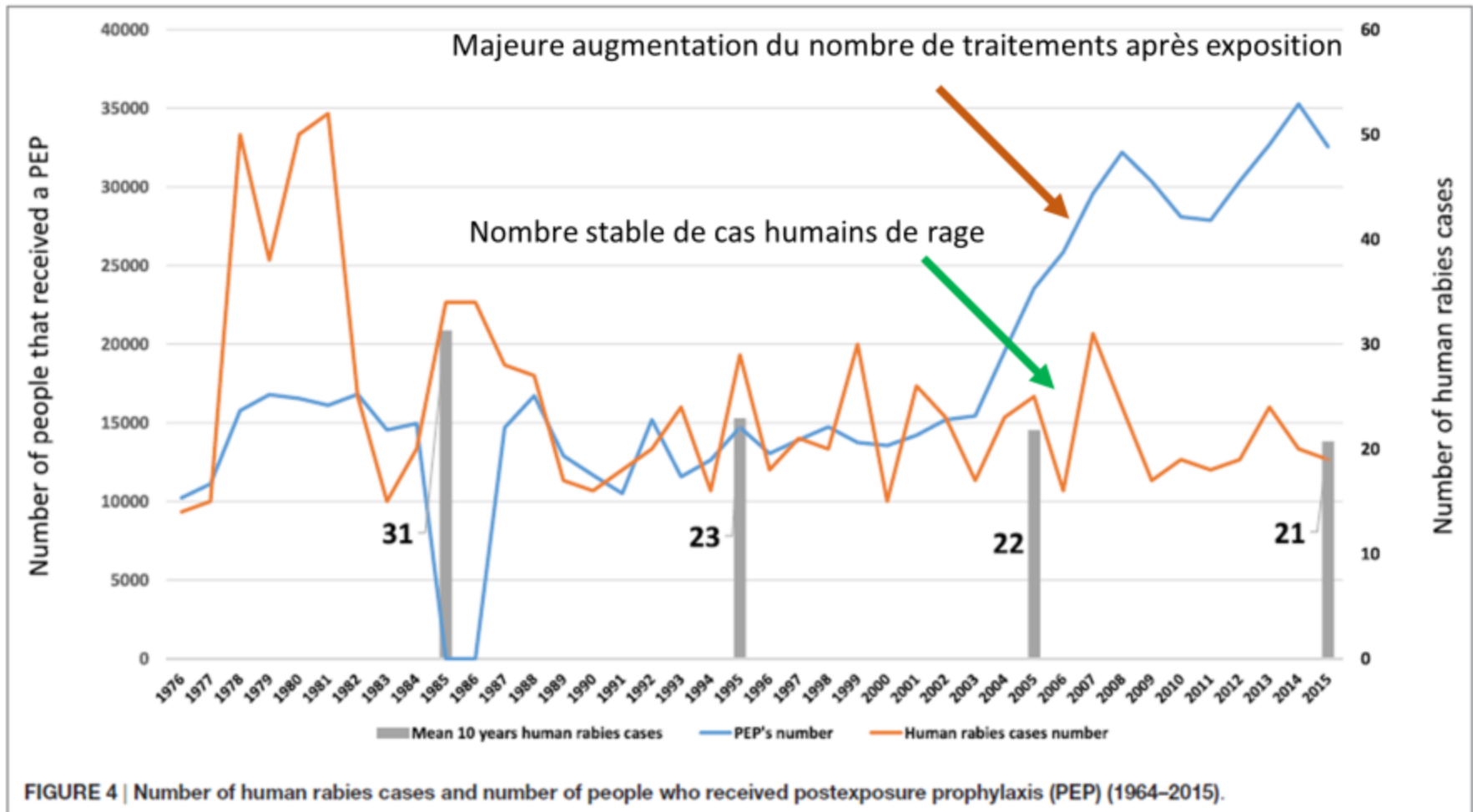
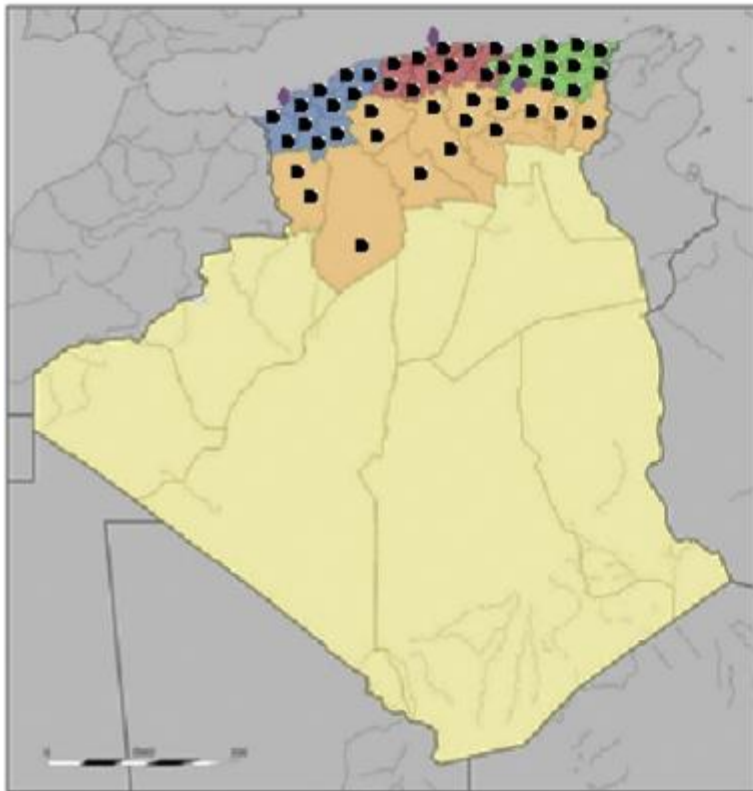


FIGURE 4 | Number of human rabies cases and number of people who received postexposure prophylaxis (PEP) (1964–2015).

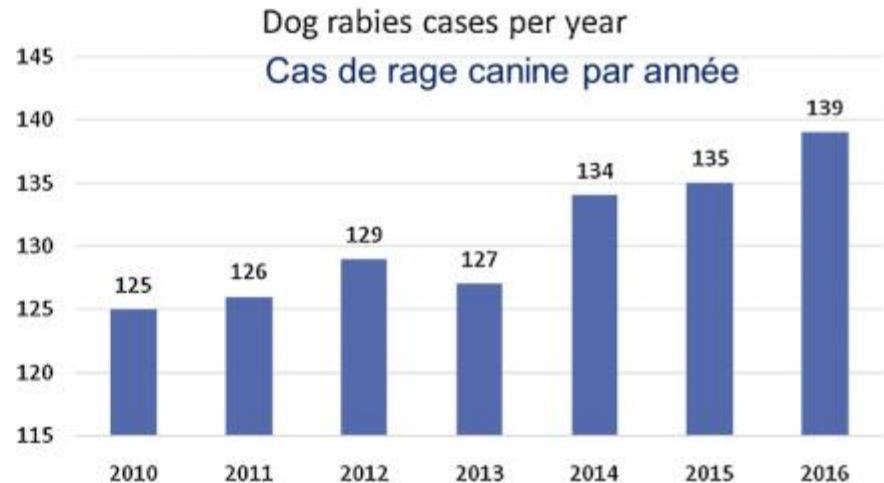
Darkaoui et al., Front Vet Sci. 2017; 4: 78.

# Rabies in Algeria



■ Clusters (municipality) ♦ Animal shelters  
■ N-C ■ N-E ■ N-W ■ Steppe region ■ Sahara

Méthode d'échantillonnage des 5 régions géographiques en Algérie



Nombre de cas de rage du chien en Algérie 2010-2016.

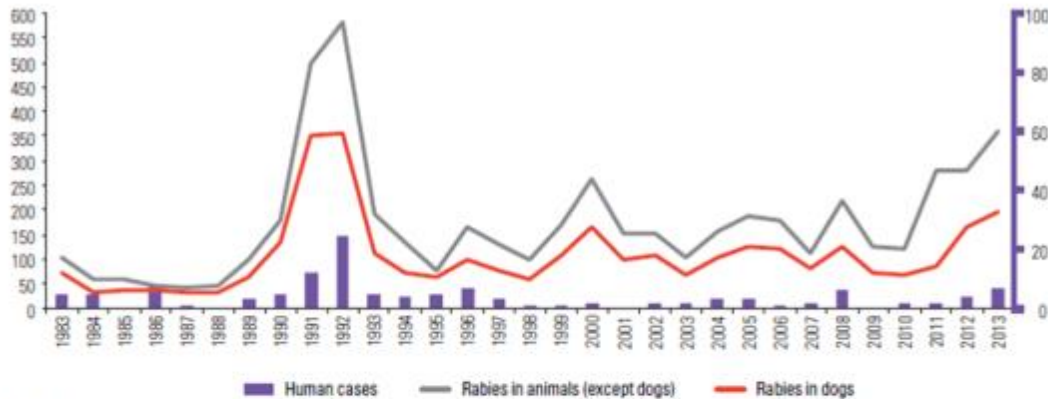
2010-2016: 1009 chiens suspects de rage soumis à l' INMV par les services vétérinaires régionaux.

Taux de positivité entre 88% and 93% (mean: 90.7% (915 cas positifs / 1009 cas suspects).

[chiens de propriétaire: catégorie la plus affectée: 59.34% de tous les cas positifs (543/915; moyenne de 77 cas par an]

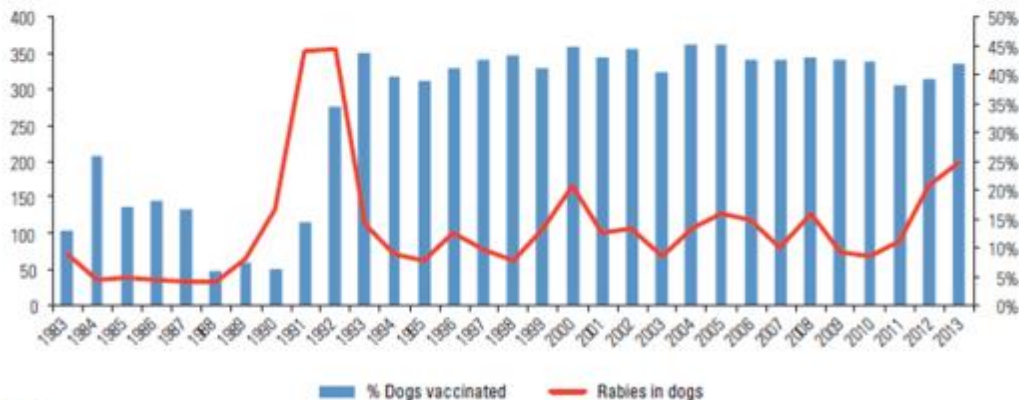
Yahiaoui et al. *Prev Vet Med.* 2018;158:65-70.

# Rabies in Tunisia



**Fig. 3**  
Number of rabies cases reported in animals and humans between 1983 and 2013 in Tunisia

Source: General Directorate of Veterinary Services, Ministry of Agriculture, Tunisia



**Fig. 4**  
Percentage of dogs vaccinated and number of rabies cases in dogs from 1983 to 2013 in Tunisia

Source: General Directorate of Veterinary Services, Ministry of Agriculture, Tunisia

## Examen de la rage et de son contrôle en Afrique du Nord : situation dans la région et gros plan sur la Tunisie

### Reasons for not vaccinating dogs during the annual campaign

Source: General Directorate of Veterinary Services, Ministry of Agriculture, Tunisia

Reasons	Percentage
Purchased after the vaccination campaign	8
The owner ignored the period of vaccination	25
The owner was not informed of the date of the period of vaccination	22
Other: refused vaccination/dog not approachable/zone is not reachable by the vaccination programme	45

Ripani et al., Rev Sci Tech. 2017;36(3):831-838



# Rabies



## Tunisia (year 2018):

- ❑ 3 human case
- ❑ 366 animal cases (236 dogs)

## Algeria (year 2018): :

- ❑ 22 human cases
- ❑ 494 animal cases (331 dogs)

## Morocco (year 2017):

- ❑ 15 human cases
- ❑ 227 animal cases (47 dogs)

## MAJOR CHALLENGES

- ❑ Lack of coordination between Ministries;
- ❑ Lack of mass vaccination strategies
- ❑ Lack of security;
- ❑ Mismanagement of waste;
- ❑ Increase of the number of stray dogs over the years;
- ❑ Low degree of awareness of the population

CONTINUOUS INFORMATION

OIE rabies international standard: towards 'Zero by 30'





Tunisia

# National: campagnes de sensibilisation et d'éducation sanitaire dans les écoles primaires, les aires de jeux, les parcs d'attraction et les zones rurales



# Rabies



## 2018 World Rabies Day Awards

The annual World Rabies Day Awards recognize Community Rabies Champions and even more opportunities to share the stories of people and organisations to praise all the individuals and organisations who shared their amazing work for the 2018.

We are delighted to announce this year's Awardees:

### Global categories:

- Individual Award: [Dr Yoenten Phuentshok](#), Bhutan
- Individual Award: [Ms Debby Ng](#), Nepal
- Students/student groups Award: [Health Through Media Leaders](#), Philippines
- Students/student groups Award: [Tunisia Against Rabies](#), Tunisia

### Regional categories:

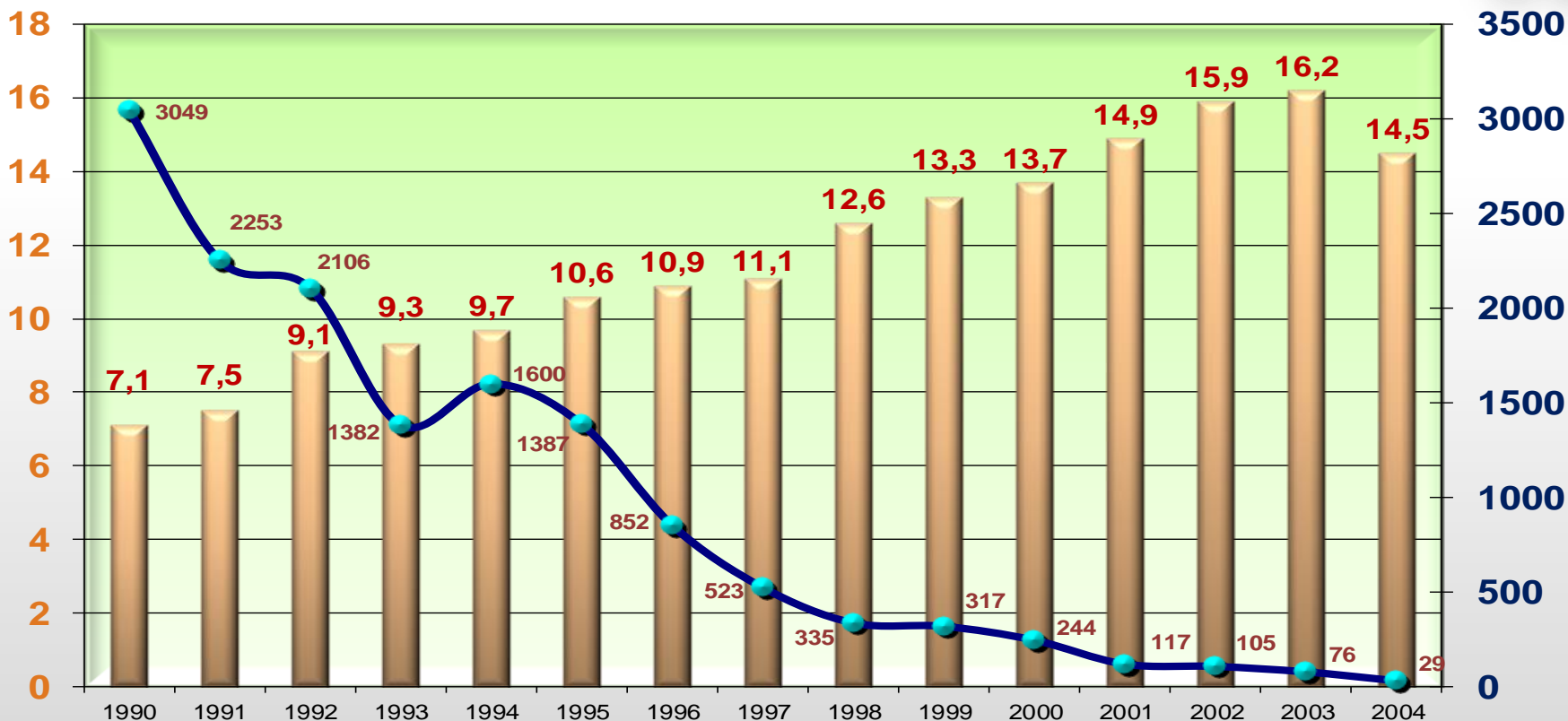
- ARACON Award: [Lanna Dog Welfare](#), Thailand
- PARACON Award: [The Big Fix Uganda](#), Uganda
- MERACON Award: [SFT Le Sanctuaire de la Faune de Tanger](#), Morocco
- Americas Award: [Uvis São Miguel Paulista](#), Brazil



# Vaccination antirabique au Mexique

Chiens vaccinés  
(en millions)

Cas de rage  
canine



La vaccination de masse des chiens appliquée chaque année à grande échelle est la stratégie la plus efficace pour éliminer durablement la rage

# Campagnes de vaccination antirabique de masse

Qu'appelle-t-on une campagne massive de vaccination?

Quelques milliers ou dizaines de milliers de chiens? En combien de temps?

Quelques centaines de milliers ou plusieurs millions? En combien de temps?

## Organisation de la vaccination de masse contre la rage canine au Brésil

(Belotto AJ. *Rev Infect Dis.* 1988;10 Suppl 4:S693-6).

La présente étude rapporte les résultats des campagnes de vaccination antirabique de masse menées au Brésil entre 1980 et 1985 afin de réduire l'incidence de la rage dans les zones urbaines du pays. Une attention particulière est accordée à l'organisation de ces campagnes, qui se sont déroulées en une seule journée dans plus de 1 000 villes de 20 États, y compris de grandes régions métropolitaines telles que Rio de Janeiro. Trois niveaux de services de santé publique (régional, départementel et municipal) ont été impliqués dans l'organisation de ces campagnes. La participation massive de la communauté est également soulignée. Près de 100 000 personnes de différents segments de la communauté, en particulier des étudiants et des membres des forces armées et de la police militaire de l'État, ont participé à la vaccination ou à d'autres tâches lors de la journée nationale de vaccination contre la rage canine. Un autre point fondamental est le soutien apporté dans les médias par le biais d'émissions nationales et locales diffusées au cours des deux semaines précédant le jour de la vaccination ».

# CONCLUSIONS:

- ❑ Political willingness = political acts
- ❑ Intersectoral collaboration = joint and coordinated field actions
- ❑ Investing on field actions

# Conclusions

**ZERO BY 30**  
THE GLOBAL STRATEGIC PLAN

**TO END  
HUMAN DEATHS  
FROM DOG-MEDIATED  
RABIES BY 2030**

Only 10 years left - still between 21,000–25,000 human deaths in Africa

All is known and available to reach the objective

Would it be feasible???

# Merci pour votre attention



Dr Rachid Bouguedour



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