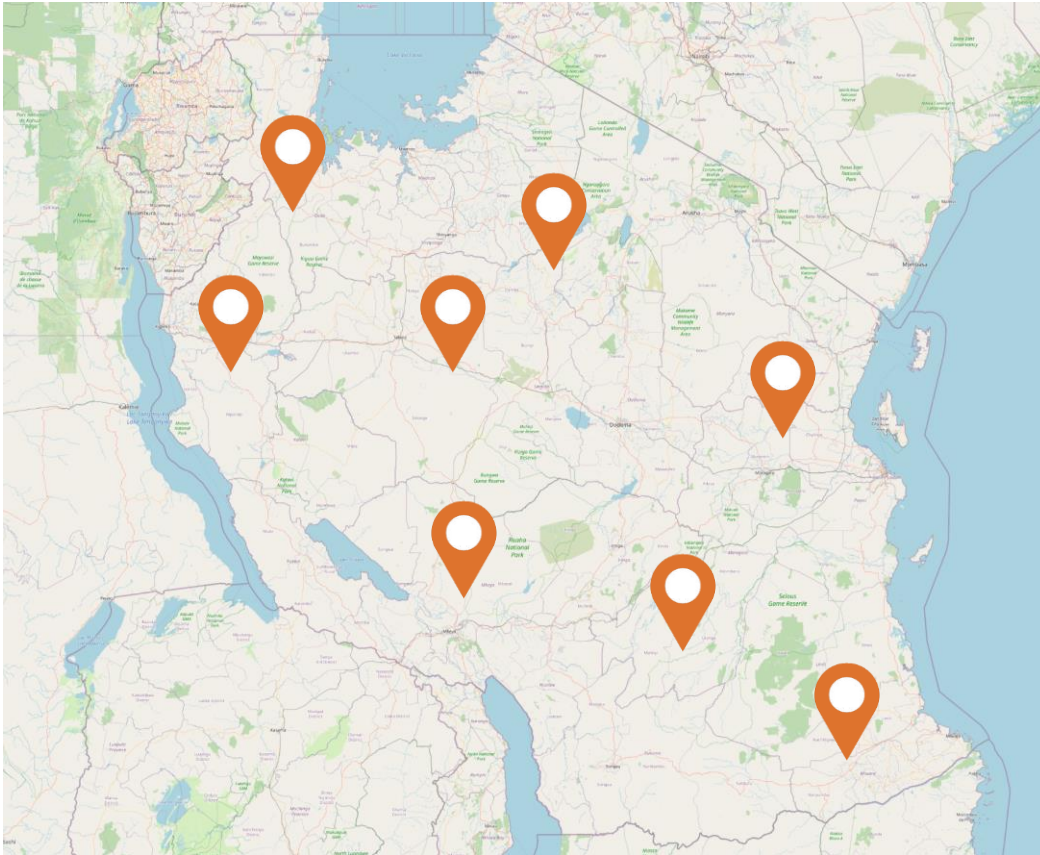




## Demystifying Data Tools for rabies data collection and programme planning



# Operational Challenges



- Activity tracking
- Uncoordinated data collection
- Priority setting
- Duplication
- Individual acquisition and allocation of resources

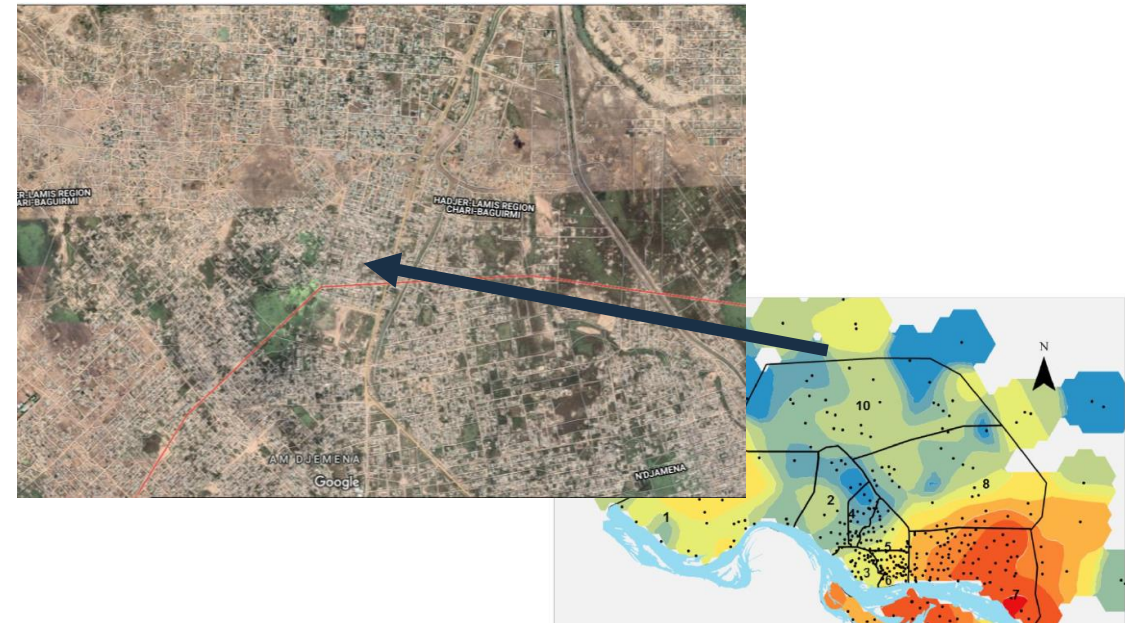




# Dogs don't respect political boundaries

## Rationale for a coded risk map

- Ensure contiguous populations of dogs are vaccinated
- Move away from planning by political boundaries
- Assist with effective prioritization when resources are limited
- Method for evaluating continuity of vaccination coverages
  - Avoid pockets, try to get homogenous spread
- Method for visualizing surveillance data
- Method for estimating dog populations
  - GIS-based stratified HDRs







# Cluster Analysis

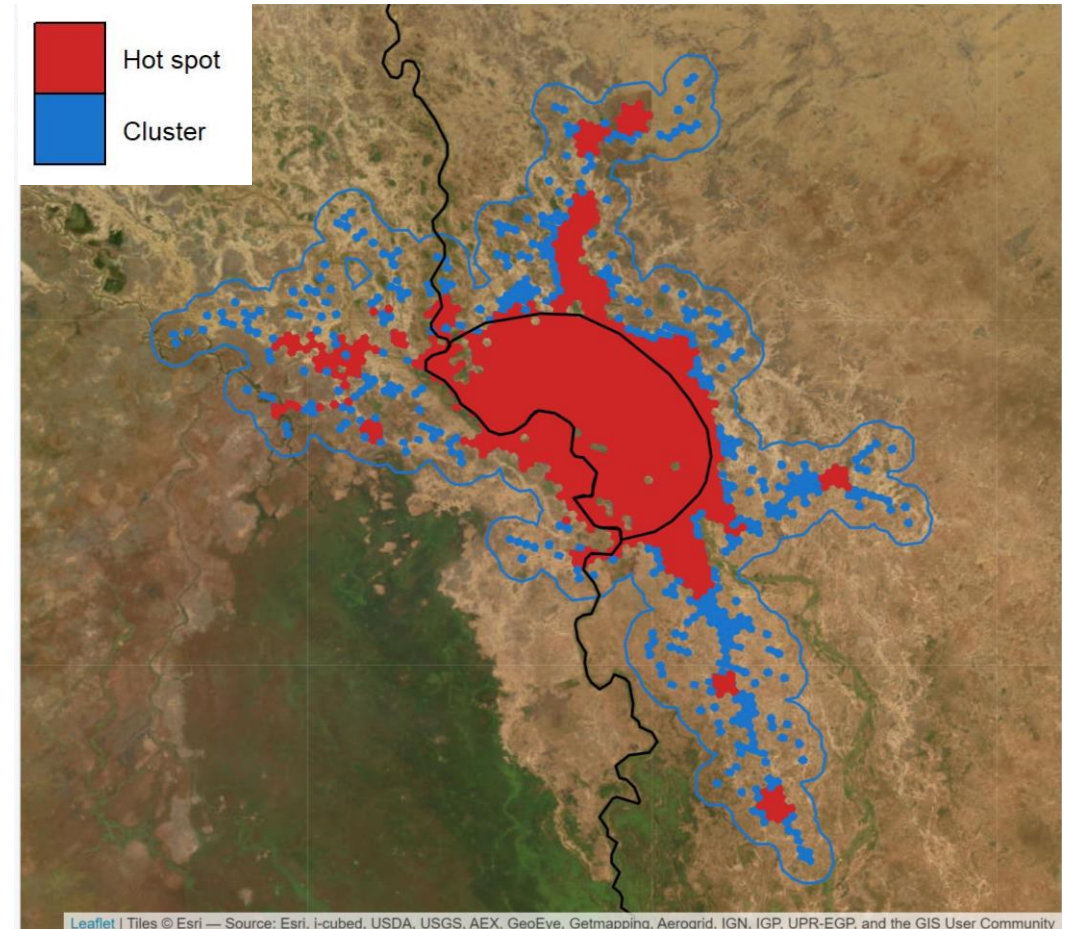
## Terminology

**Hot spots:** Areas with significantly high concentration of dogs that are likely to maintain rabies transmission if rabies is present.

**Clusters:** Areas that connect **hot spots** with population and road connectivity suitable for transmission if rabies is present.

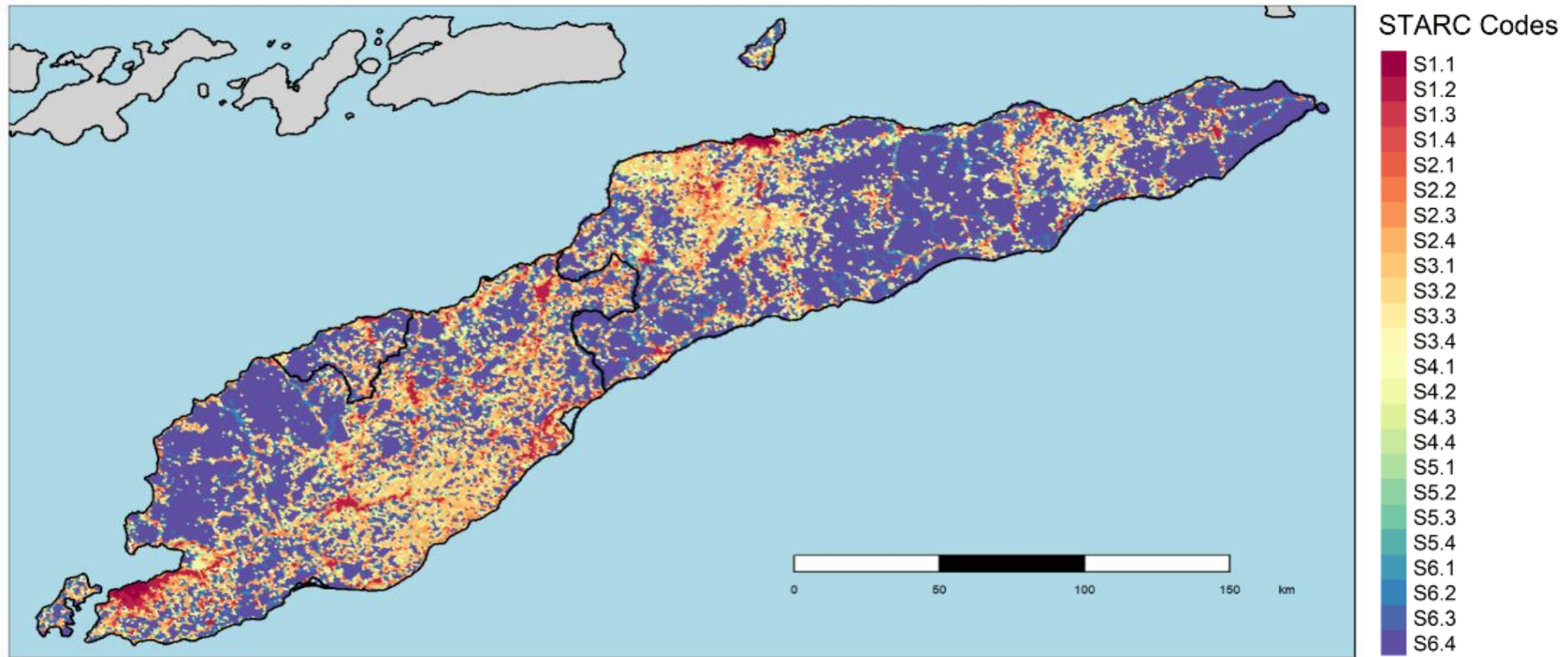
**Transmission Zones:** Groupings of **clusters** that are close enough to likely support sustained transmission if rabies is present.

**Susceptible Zones:** Groupings of **clusters** that are close together and may experience outbreaks but are unlikely to support sustained transmission.



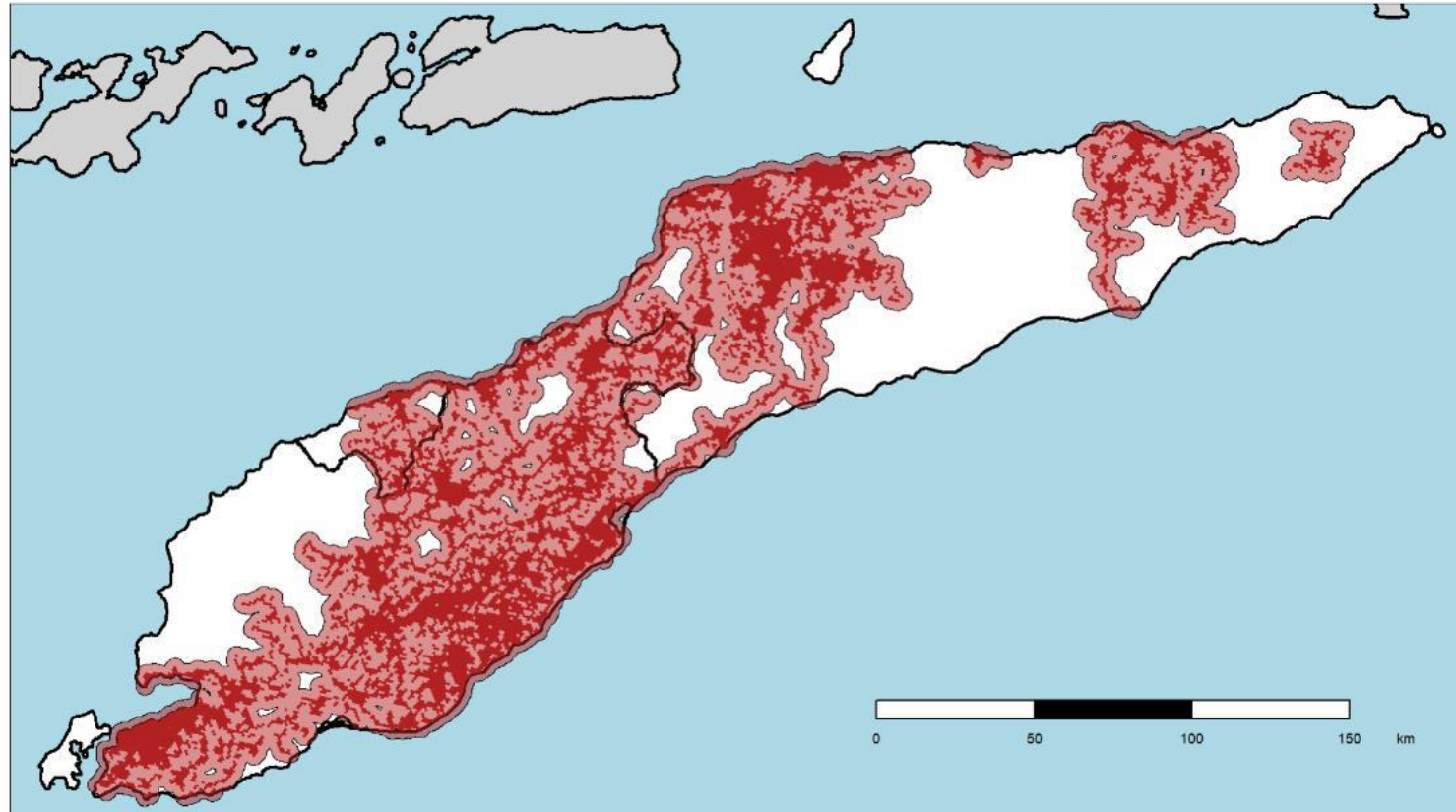


# Example: Timor Island





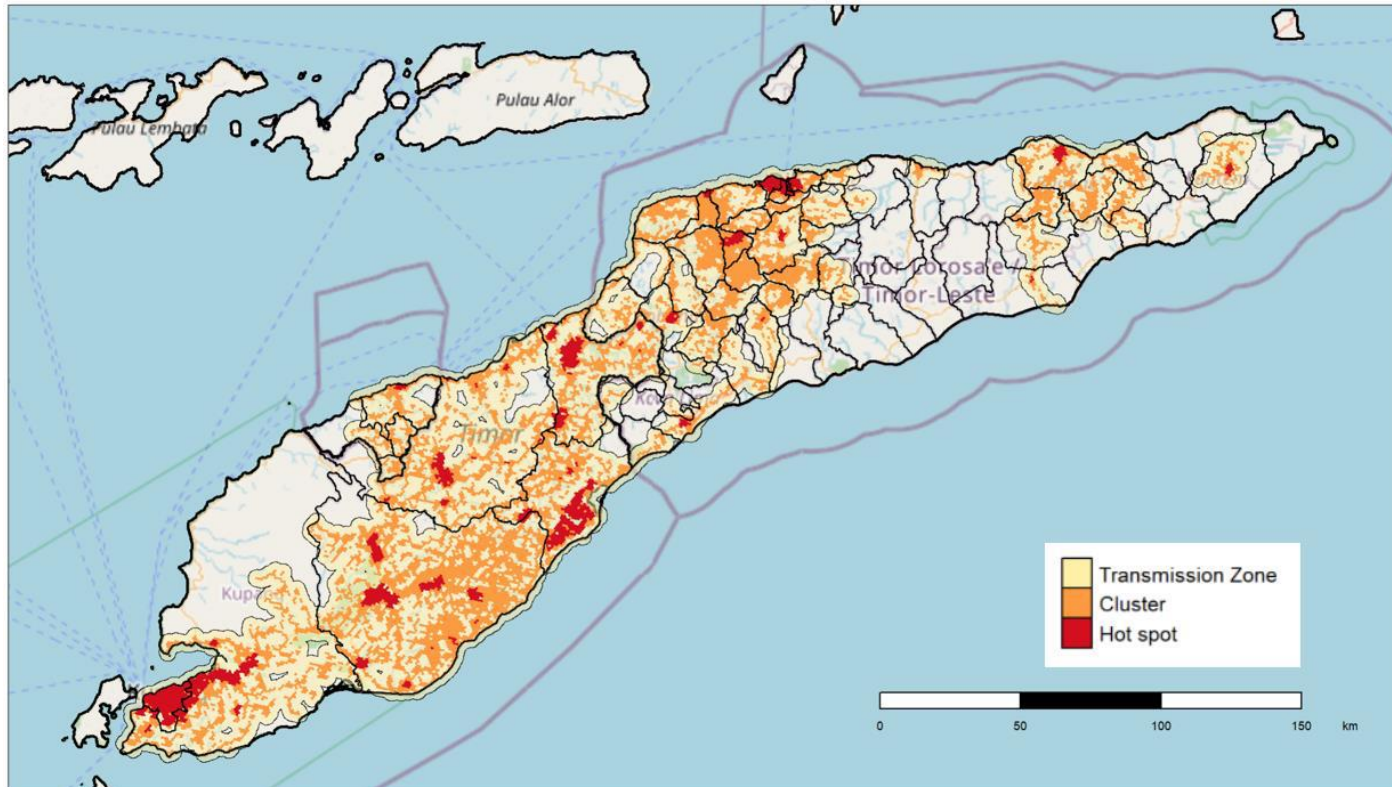
## Example: Timor Island







# Example: Timor Island



STARC Code	Human to Dog Ratio (Indonesia)	Human to Dog Ratio (Timor)	Estimated Dog Population (overall)
S1.1 – 1.4	10	15	46,159
S2.1 – 2.4	7.5	12.5	156,177
S3.1 – 3.4	5	10	221,742
S4.1 – 4.4	3	7.5	21,793
S5.1 – 5.4	2	5	1,133
<b>TOTAL</b>		<b>7.6</b>	<b>447,006</b>
Transmission Zones (n = 4)		<b>7.5</b>	<b>410,669</b>
Susceptible Zones (n = 0)		-	-

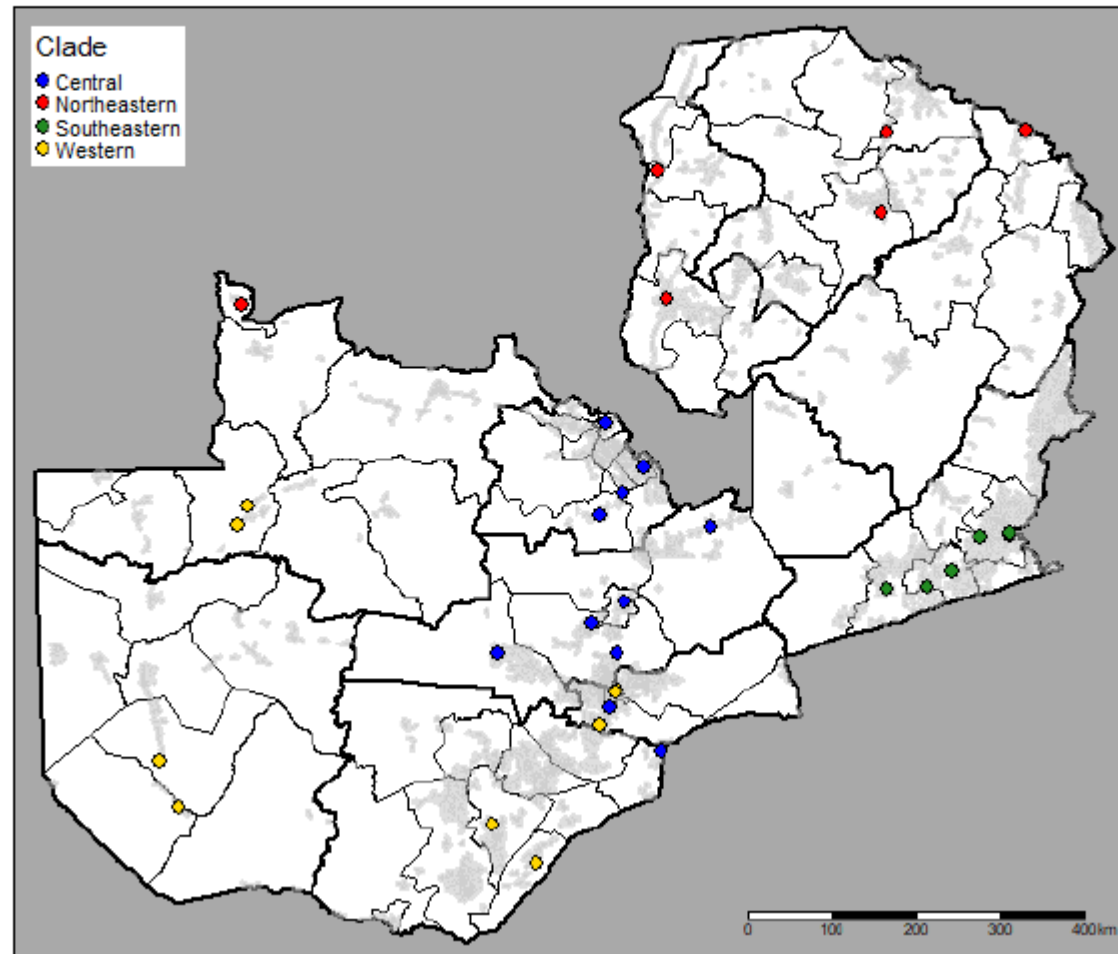
STARC Code	Estimated Dog Population
S1.1 – 1.4	46,159
S2.1 – 2.4	139,741
S3.1 – 3.4	189,213
S4.1 – 4.4	16,558
S5.1 – 5.4	845
<b>TOTAL</b>	<b>392,518</b>



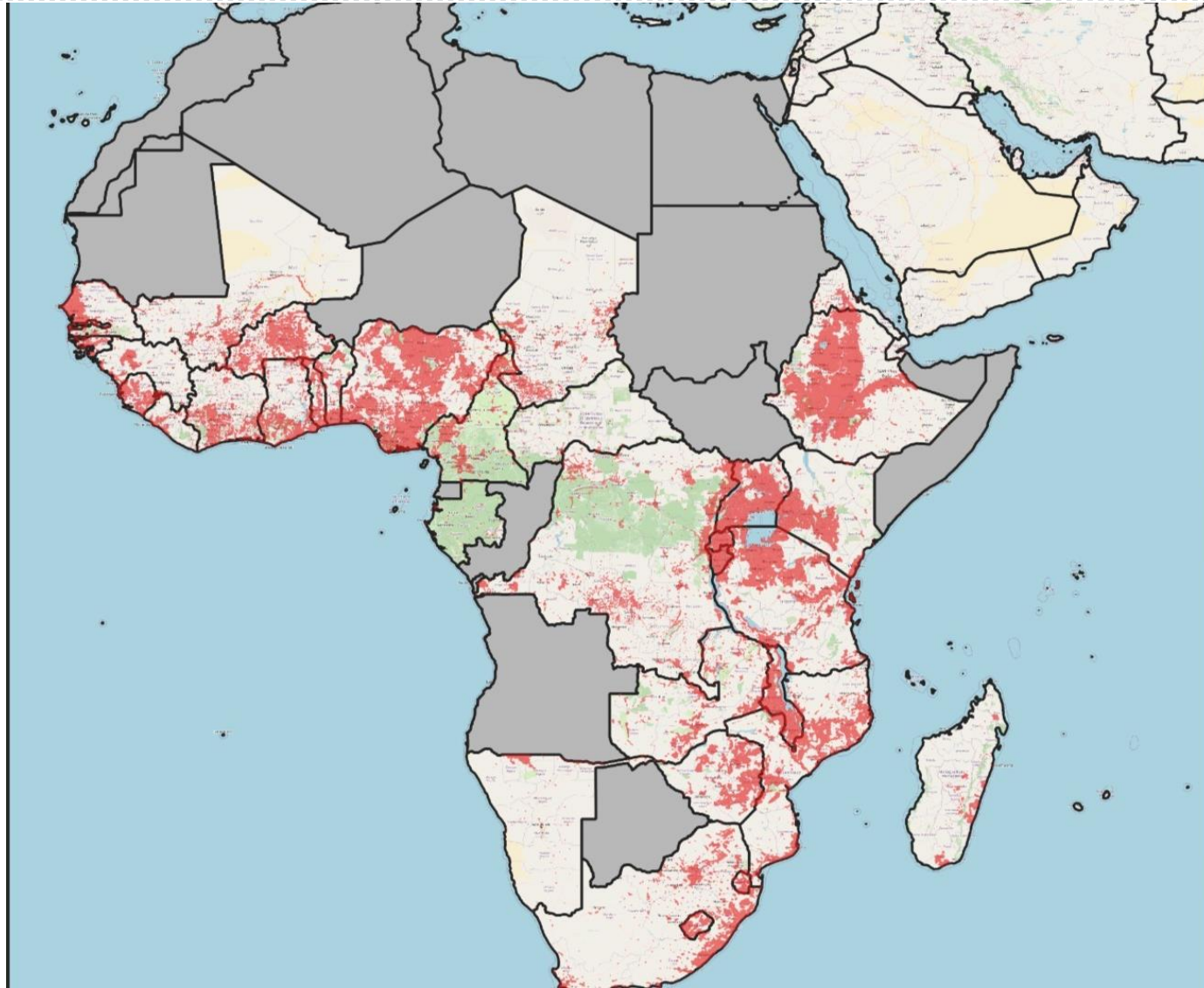


## Example: Zambia

**Figure 3: Geographic distribution of confirmed animal rabies cases and viral clade in relation to Transmission and Susceptible Zones**

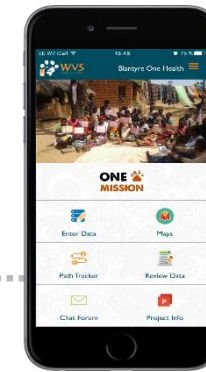


# Regional Coordination





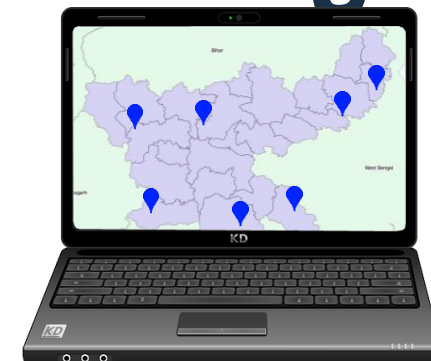
## Data Collection



**Team**

Direction

**Manage**



- Gathering data from remote areas
- Rapid reporting by
  - District
  - State
  - Country
- Feedback mechanism enabling adjustment of operations



# Data collection

## BLANTYRE DISTRICT VACCINATION

Back

- Description
- IBCM
- Bite Register
- Users
- Contacts
- Form
- Group Conversation
- Photos
- Map

### Plot Data

VACC Malawi district vaccination V2 (C)

01/06/2024 31/07/2024

### Display boundaries/path tracker

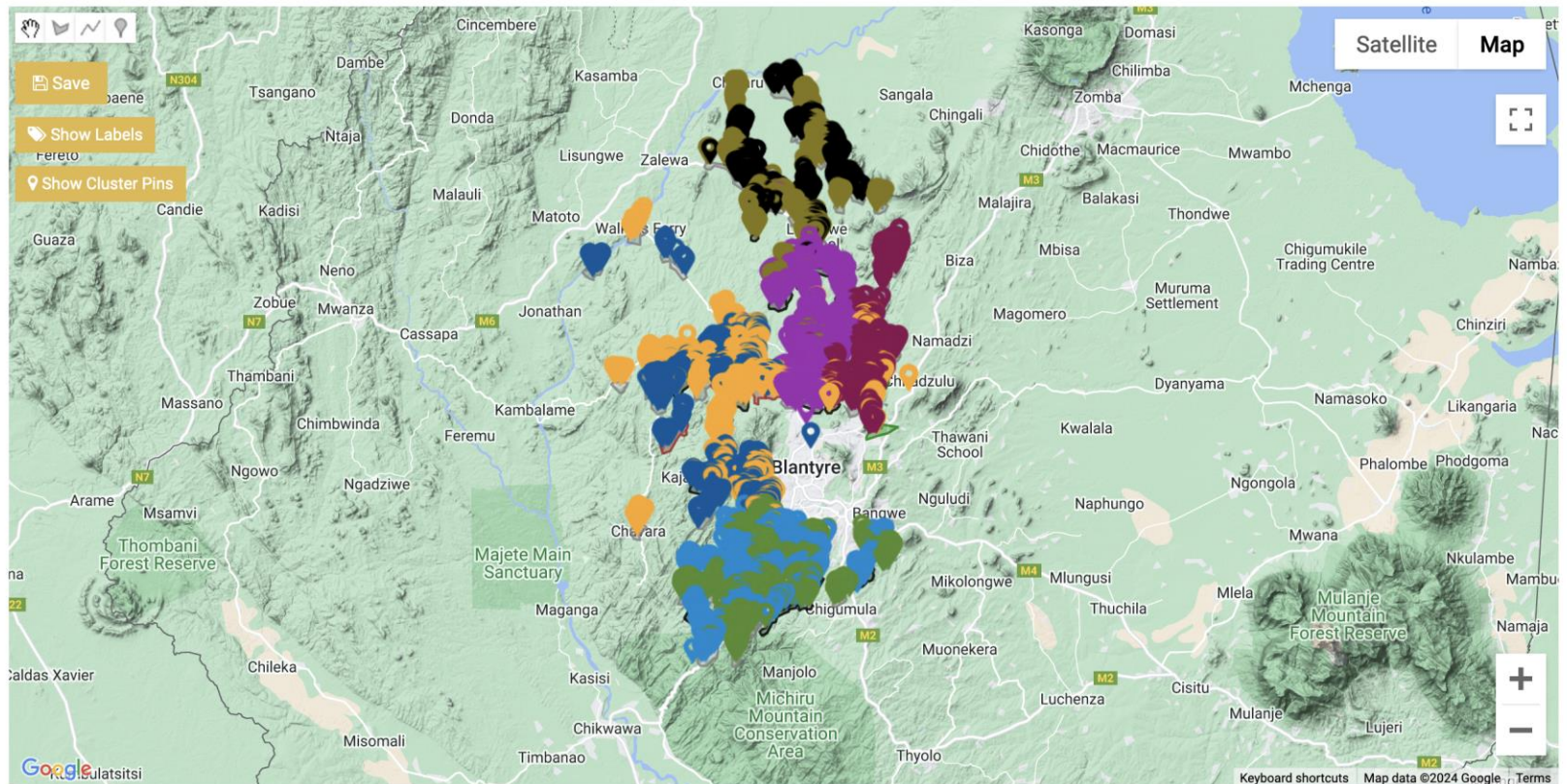
- Display boundaries
- Display path trackers

+ Add Users

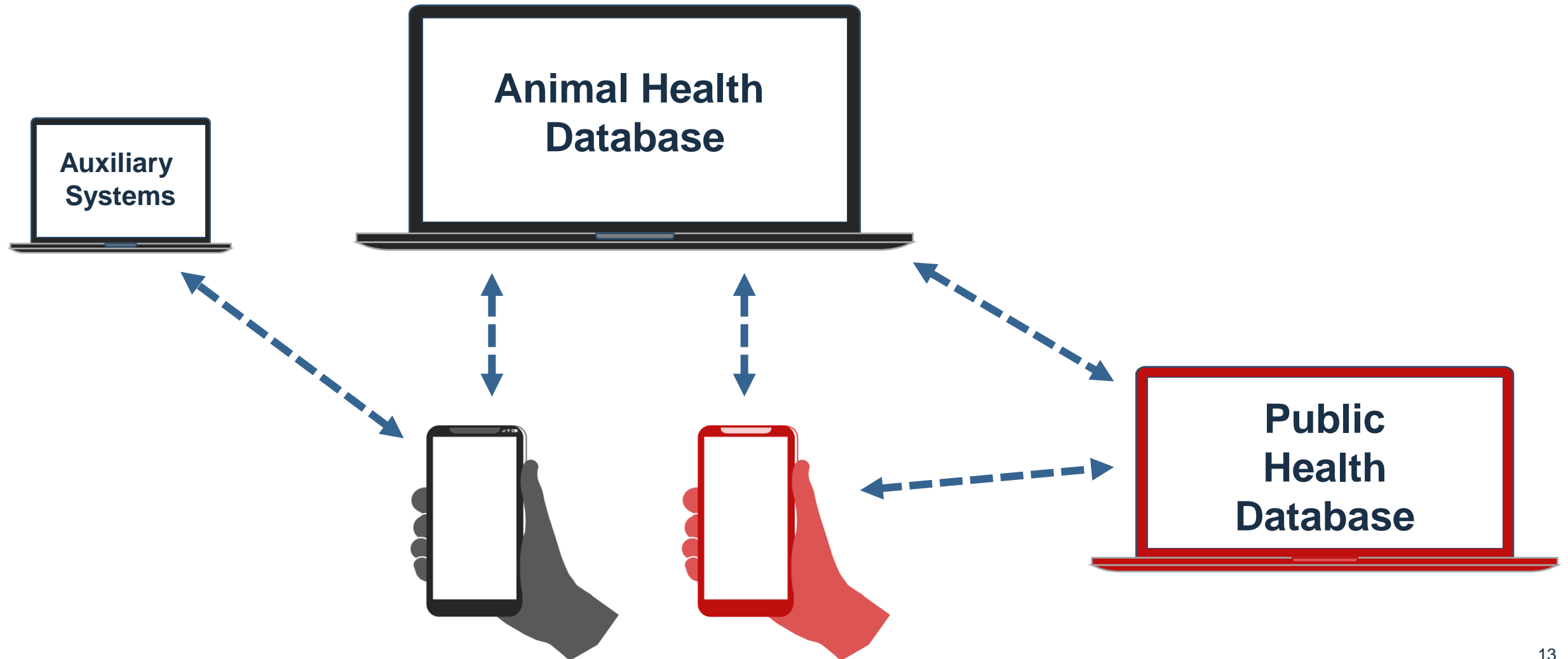
### Display User Data

- Select All
- BltPVS1
- BltPVS3
- BltPVS4
- BltPVS5
- BltPVS6
- Chipande 1

Edit Map



# Integrated Databases





# Finding the toolbox



Images: On

Search Site

Contact

Get Involved

Rabies – The Global Challenge

Rabies Roadmap and Resources

Events and Courses

News and Case Studies

About



© World Animal Protection

## We are United Against Rabies.

### 1 every 9 minutes

1 person dies from rabies every 9 minutes and almost half of them are children.

### 99%

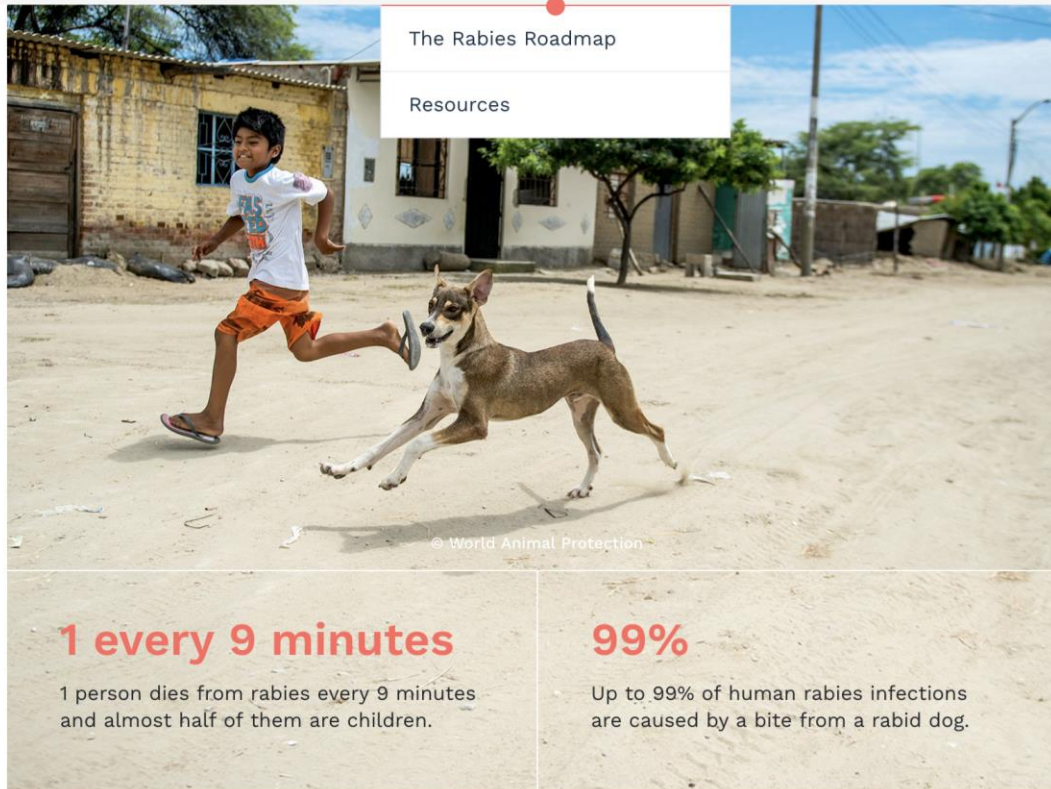
Up to 99% of human rabies infections are caused by a bite from a rabid dog.

### 100% preventable

We have effective dog vaccines and vaccines to treat people who are bitten.



# Finding the toolbox



The Rabies Roadmap

Resources

**1 every 9 minutes**

1 person dies from rabies every 9 minutes and almost half of them are children.

**99%**

Up to 99% of human rabies infections are caused by a bite from a rabid dog.

**100% preventable**

We have effective dog vaccines and vaccines to treat people who are bitten.

**We are United  
Against Rabies.**

Please select resource type

Toolbox

Publications and  
Documents

Courses and Training

Media Library

UAR Best Practice

### Rabies Economic Model

Creation Date: Version 1.0 = 2021  
Produced By: US Centers for Disease Control and Prevention (CDC)

A mathematical model that can estimate the rate of dog-to-dog and dog-to-human rabies virus transmission. The model includes several user-defined interventions such as dog vaccination, human vaccination and population management.

#### Categories

**Program / Strategy**

[Economic Analysis, Planning](#)

[Dog Vaccination Campaign Implementation Planning](#)

### Stepwise Approach towards Rabies Elimination (SARE)

Creation Date: 2012 (last update 2019, v17)  
Produced By: Global Alliance for Rabies Control (GARC)

The Stepwise Approach towards Rabies Elimination (SARE) has been developed as a practical planning and monitoring and evaluation tool to guide, develop, and refine national rabies control in line with international recommendations.

#### Categories

**Program / Strategy**

[Planning, Prioritization](#)

### VaxPlan

Creation Date: 2019  
Produced By: US Centers for Disease Control and Prevention (CDC)

A tool that allows users to design vaccination campaigns and see the expected cost and coverage. It helps vaccination campaign managers determine the appropriate amount of vaccine,

#### Categories

**Program / Strategy**

[Budgeting, Planning](#)

[Dog Vaccination Campaign Implementation Budgeting, Planning](#)



[< Toolbox](#)

## Rabies Economic Model

**Provider:** US Centers for Disease Control and Prevention (CDC)

Activities	Resource Language	Who is it for?	Link
Strategy, Planning, Economics	English	Policymakers or government agency officials; Rabies control program managers; Animal vaccination program personnel;	<a href="#">Download supplement here</a>

### Cost

Free

### Description

The Rabies Economic Model is a mathematical model that can estimate the rate of dog-to-dog and dog-to-human rabies virus transmission.

The model includes several user-defined interventions such as (1) dog vaccination (2) human vaccination and (3) population management.

Users can define their program area, input basic factors describing the community and design their own interventions to determine the cost-effectiveness of rabies control.



Please select resource type

Toolbox	Publications and Documents	Courses and Training	Media Library	UAR Best Practice
<p><a href="#">Rabies Economic Model</a></p> <p>Creation Date: Version 2.0 = 2021 Produced By: US Centers for Disease Control and Prevention (CDC)</p> <p>A mathematical model that can estimate the rate of dog-to-dog and dog-to-human rabies virus transmission. The model includes several user-defined interventions such as dog vaccination human vaccination and population management.</p>			<p>Categories</p> <p>Program / Strategy <a href="#">Economic Analysis, Planning</a> Dog Vaccination Campaign Implementation <a href="#">Planning</a></p>	
<p><a href="#">Stepwise Approach towards Rabies Elimination (SARE)</a></p> <p>Creation Date: 2012 (last update 2019, v17) Produced By: Global Alliance for Rabies Control (GARC)</p> <p>The Stepwise Approach towards Rabies Elimination (SARE) has been developed as a practical planning and monitoring and evaluation tool to guide, develop, and refine national rabies control in line with international recommendations.</p>			<p>Categories</p> <p>Program / Strategy <a href="#">Planning, Prioritization</a></p>	
<p><a href="#">VaxPlan</a></p> <p>Creation Date: 2019 Produced By: US Centers for Disease Control and Prevention (CDC)</p> <p>A tool that allows users to design vaccination campaigns and see the expected cost and coverage. It helps vaccination campaign managers determine the appropriate amount of vaccine, most effective methods for distribution, and the cost of the plan.</p>			<p>Categories</p> <p>Program / Strategy <a href="#">Budgeting, Planning</a> Dog Vaccination Campaign Implementation <a href="#">Budgeting, Planning</a></p>	

<https://www.unitedagainstrabies.org/resources-toolbox/>





## STARC MAPPING

*Maximising the impact of vaccination resources*

The Settlement Type and Road Connectivity (STARC) Mapping tool enables a representation of the potential rabies burden and transmissibility to communities to be established and for mapping of campaigns to be optimised based on this data.



## RABIES ECON

*Explore the cost-benefit of your campaign.*

The Rabies Econ tool supports governments in the planning and assessment of elimination programs, allowing estimations of the cost and benefits of different vaccination strategies to be made.

THE MOST RECENT VERSION OF THE TOOL CAN BE FOUND IN THIS PUBLICATION

<https://rabiestaskforce.com/toolkit>





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# Thank you very much!

[fred@wvs.org.uk](mailto:fred@wvs.org.uk)

2024 United Against Rabies  
Forum: Feedback survey

