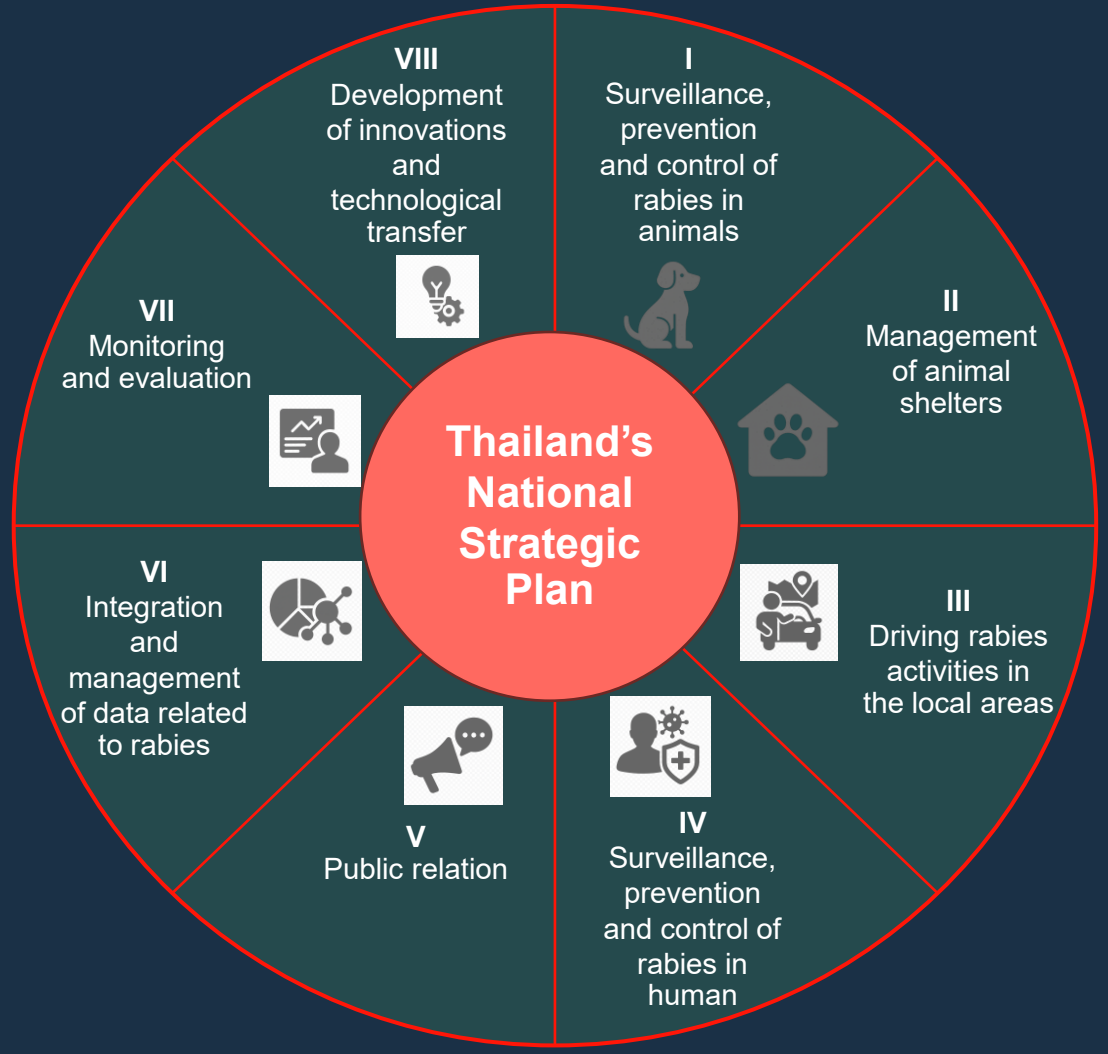


Update on Thailand's National Strategic Plan

Weerapong Thanapongtharm
Department of Livestock Development, Thailand

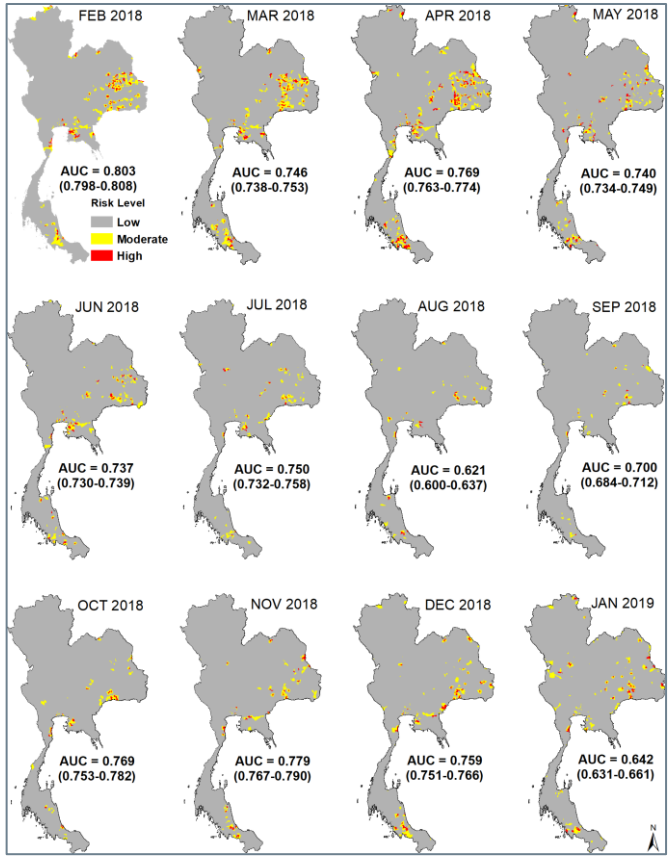
United Against Rabies

2025 United Against Rabies Meeting
7 – 9 October 2025, Bangkok, Thailand

Situation of rabies in Thailand

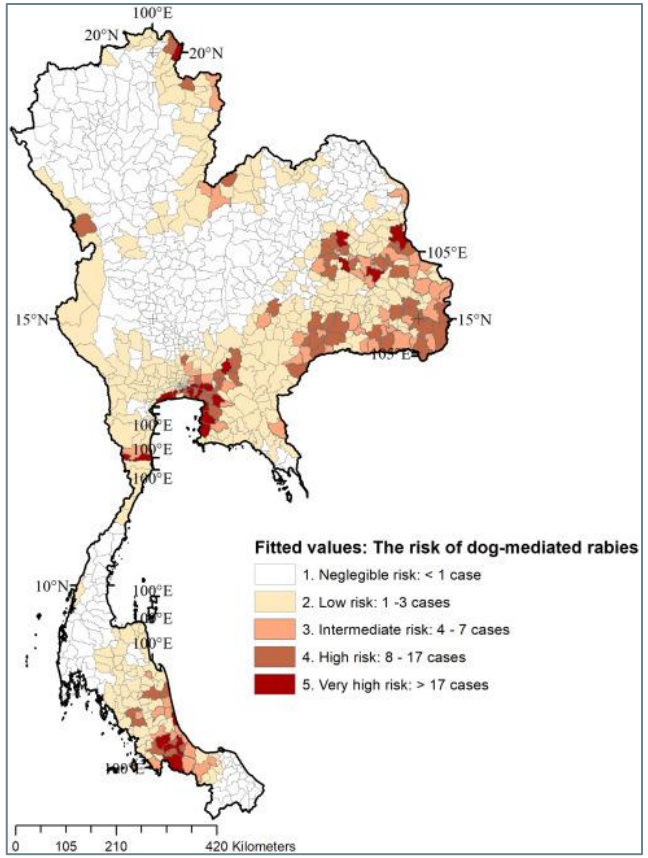
United Against Rabies

Current characteristics of animal rabies cases in Thailand and relevant risk factors identified by a spatial modeling approach



https://journals.plos.org/plosntds/article/info:doi/10.1371/journal.pntd.0009980

Identifying high-risk areas for dog-mediated rabies using Bayesian spatial regression



https://www.sciencedirect.com/science/article/pii/S235277142200043X

- It was found that the majority of animals affected by rabies in Thailand were unvaccinated, free roaming, owned and ownerless dogs, followed by cattle, cat and others.
- High-risk areas were located in the northeast, central, and south, mainly relating to dog and human population, food sources (such as community, Buddhist temples, and garbage dumps), and distance to border areas.
- Temporally, the number of cases gradually increased after June and reached a peak in January

Rabies strategies in Thailand

- **National committee to drive the strategies chaired by Her Royal Highness Princess Chulabhorn Walailak, the Princess Srisavangavadhana**
- **8 Strategies of rabies elimination**
  - Surveillance, prevention and control of rabies in animal
  - Management of animal shelters
  - Driving rabies activities in the local areas
  - Surveillance, prevention and control of rabies in human
  - Public relation
  - Integration and management of data related to rabies
  - Monitoring and evaluation
  - Development of innovations and technological transfer
- **6 main collaborations**
  - Department of Livestock Development, Ministry of Agriculture and Cooperatives
  - Kasetsart Univerisity (Fac.of Vet Med), Ministry of Higher Education, Science, Research, and Innovation
  - Department of Local Administration, Ministry of Interior
  - Department of Disease Control, Ministry of Public Health
  - Public Relations Department, Office of the Prime Minister
  - Prime Minister Office

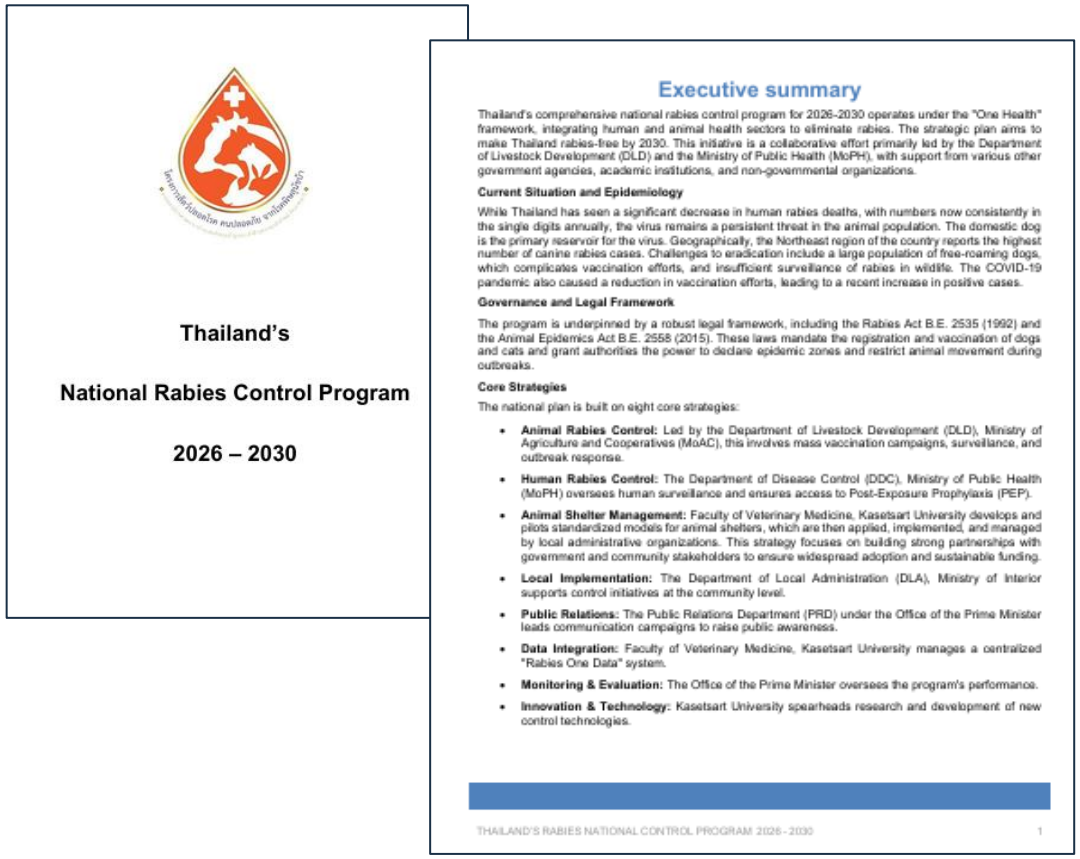
Improvement of Strategic Plan

VS

Similarities	Differences
Common Goal – Both plans share the overarching objective of rabies elimination. **Multi-sectoral approach** – Both emphasize cooperation between human health, animal health, and other stakeholders under the One Health framework. **Key Interventions** – Both include mass dog vaccination, post-exposure prophylaxis (PEP), public awareness, and surveillance. **Community participation** – Both recognize the importance of engaging communities and local authorities in rabies prevention	**Structure and Clarity** The Thai plan presents strategic directions but with less structured detail. The Global NSP template uses a standardized framework with a **core document** (strategic overview) and **addenda** (action plan, M&E, budget). **Indicators and Monitoring** The Thai plan lacks specific SMART indicators and measurable outputs. The Global NSP provides a clear M&E framework with baselines, targets, and timelines. **Risk-Based Approach** The Thai plan applies a nationwide strategy without strong risk stratification. The Global NSP emphasizes risk mapping, prioritization of hotspots, and resource allocation accordingly. **Flexibility and Contingency Planning** The Thai plan is more static and less adaptable to new outbreaks or vaccine shortages. The Global NSP stresses flexibility and preparedness for emergencies.

Template for National Strategic Plan to Control Rabies

Official control programme for dog-mediated rabies in Thailand



Thailand's

National Rabies Control Program

2026 – 2030

Executive summary

Thailand's comprehensive national rabies control program for 2026-2030 operates under the "One Health" framework, integrating human and animal health sectors to eliminate rabies. The strategic plan aims to make Thailand rabies-free by 2030. This initiative is a collaborative effort primarily led by the Department of Livestock Development (DLD) and the Ministry of Public Health (MoPH), with support from various other government agencies, academic institutions, and non-governmental organizations.

Current Situation and Epidemiology

While Thailand has seen a significant decrease in human rabies deaths, with numbers now consistently in the single digits annually, the virus remains a persistent threat in the animal population. The domestic dog is the primary reservoir for the virus. Geographically, the Northeast region of the country reports the highest number of canine rabies cases. Challenges to eradication include a large population of free-roaming dogs, which complicates vaccination efforts, and insufficient surveillance of rabies in wildlife. The COVID-19 pandemic also caused a reduction in vaccination efforts, leading to a recent increase in positive cases.

Governance and Legal Framework

The program is underpinned by a robust legal framework, including the Rabies Act B.E. 2535 (1992) and the Animal Epidemics Act B.E. 2558 (2015). These laws mandate the registration and vaccination of dogs and cats and grant authorities the power to declare epidemic zones and restrict animal movement during outbreaks.

Core Strategies

The national plan is built on eight core strategies:

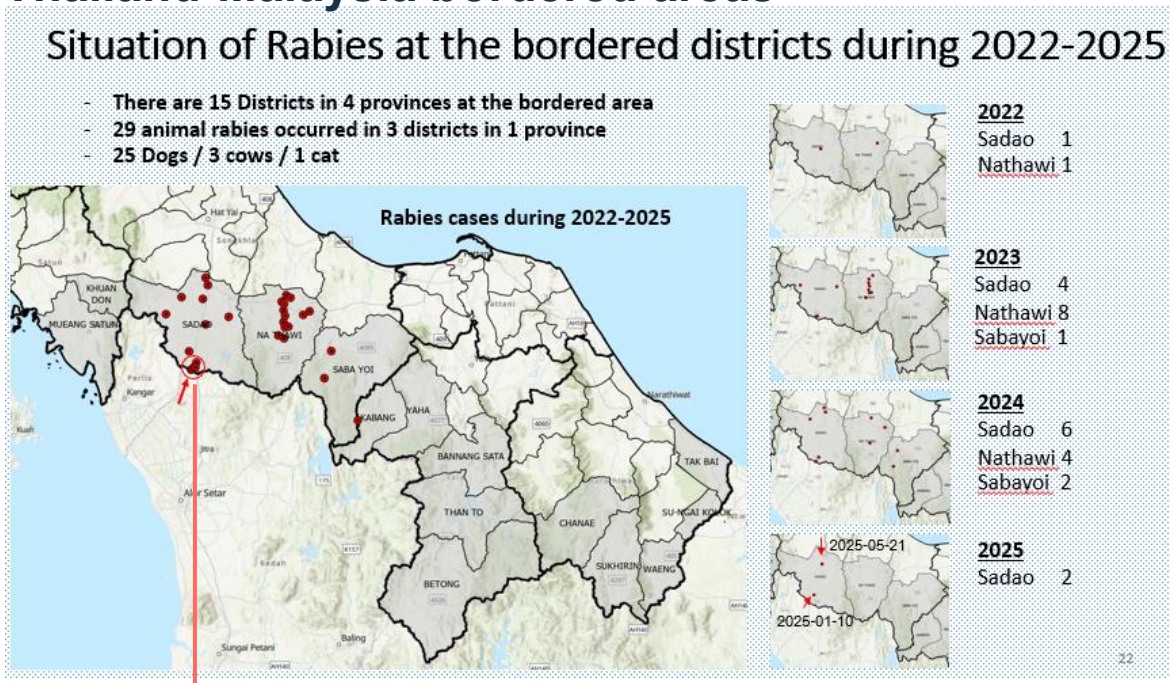
- **Animal Rabies Control:** Led by the Department of Livestock Development (DLD), Ministry of Agriculture and Cooperatives (MoAC), this involves mass vaccination campaigns, surveillance, and outbreak response.
- **Human Rabies Control:** The Department of Disease Control (DDC), Ministry of Public Health (MoPH) oversees human surveillance and ensures access to Post-Exposure Prophylaxis (PEP).
- **Animal Shelter Management:** Faculty of Veterinary Medicine, Kasetsart University develops and pilots standardized models for animal shelters, which are then applied, implemented, and managed by local administrative organizations. This strategy focuses on building strong partnerships with government and community stakeholders to ensure widespread adoption and sustainable funding.
- **Local Implementation:** The Department of Local Administration (DLA), Ministry of Interior supports control initiatives at the community level.
- **Public Relations:** The Public Relations Department (PRD) under the Office of the Prime Minister leads communication campaigns to raise public awareness.
- **Data Integration:** Faculty of Veterinary Medicine, Kasetsart University manages a centralized "Rabies One Data" system.
- **Monitoring & Evaluation:** The Office of the Prime Minister oversees the program's performance.
- **Innovation & Technology:** Kasetsart University spearheads research and development of new control technologies.

- The official control programme for dog-mediated rabies in Thailand was drafted by working group (DLD and MOPH)
- Following the WOAH guideline
  - Introduction
    - Human demographics / Dog demographics
  - Governance of the national control programme for dog-mediated rabies
    - Competent authorities / Veterinary Authority / Human health system
  - Current status and control of dog-mediated rabies
    - Epidemiology / Surveillance / Diagnosis / Control strategy / Case investigation protocol / National and International Collaboration / Awareness and education programme
  - Work plan, timelines and budget of the official control programme for dog-mediated rabies for the next five years

Collaborations with the neighbors

United Against Rabies

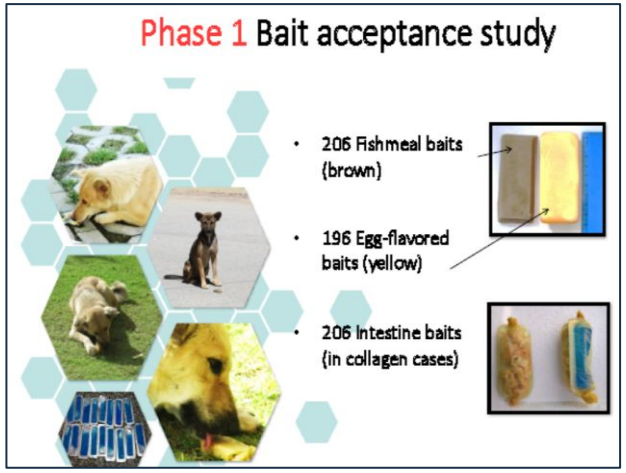
Thailand-Malaysia bordered areas



- The 12th Joint Thailand-Malaysia sub-committee meeting on livestock development
  - Taken place in State of Kelantan, Malaysia during 1-3 September 2025
  - Situation of rabies at the bordered areas was discussed
  - The technical working group has been set up to deal with the animal diseases.
- Annually bilateral meeting with LAOS
  - Support Rabies vaccines using in bordered areas

What we have known from ORV studies

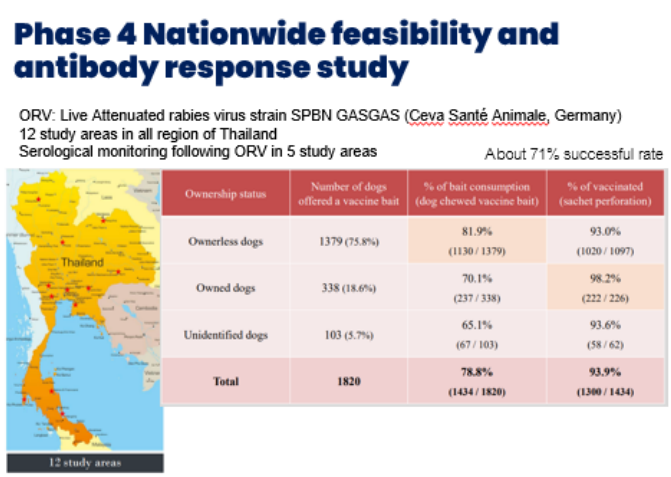
United Against Rabies



doi:10.3390/vetsci5020047

doi:10.3390/v13040571

doi:10.3390/vaccines8040573



1. Bait acceptance study

- It was identifying the most appropriate bait for the target dog population in Thailand that is well accepted and facilitates the release of the vaccine in the oral cavity (Thai dogs preferred egg-flavored baits rather than fish meal baits)

2. Serological study

- to determine antibody response after ORV in shelter dog compared to parenteral vaccine.
- It showed that ORV could induce dog's immune response to protective level within 7-14 days (as same as parenteral vaccine)

3. Feasibility study

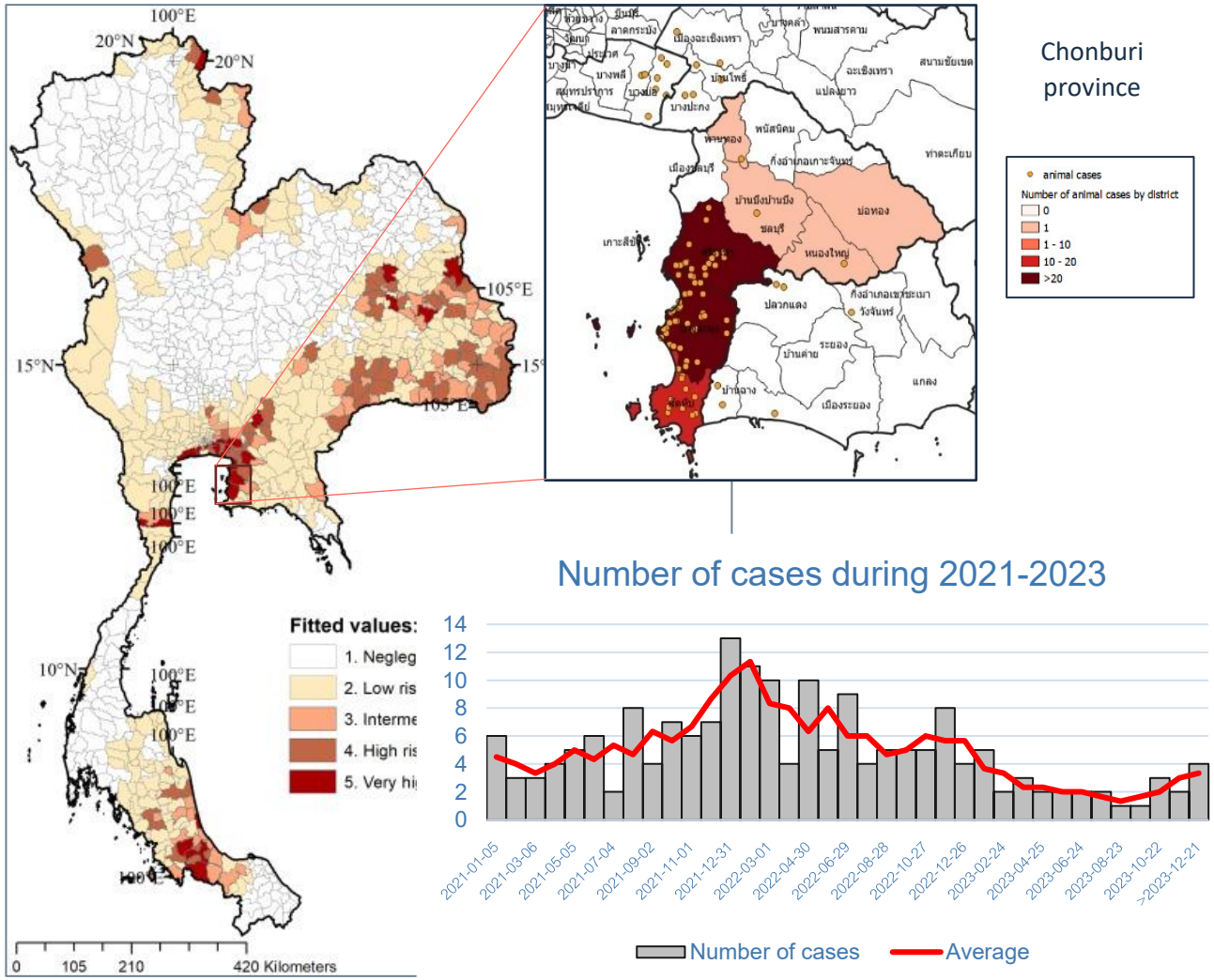
- The feasibility of ORV was assessed by a study team during 5 field studies.
- It was found that ORV could improve vaccine coverage in free-roaming dog population up to 65.6%.

4. Nationwide feasibility study

- The feasibility of ORV was expanded to 12 locations in the whole country and assessed by the local staff.
- It showed that ORV was feasible to use by local staff with more than 90% of successful rate.
- However, from FAVN test showed that more than 50% of dogs had protective immunity at Day 28 and prone to reduce in Day 90

Project title: The effectiveness of using oral rabies vaccine accompany with parenteral rabies vaccine in endemic areas in Thailand

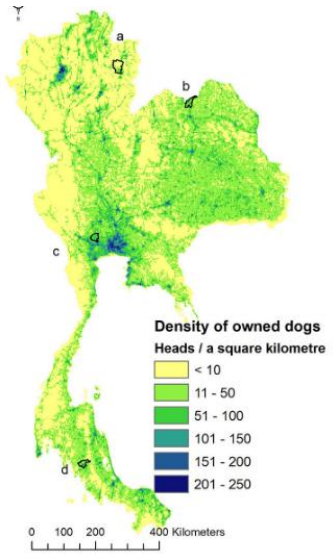
United Against Rabies

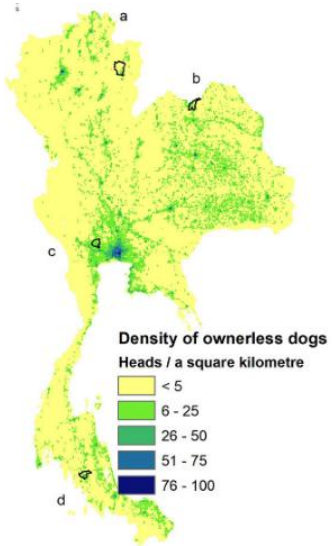


Number of cases during 2021-2023

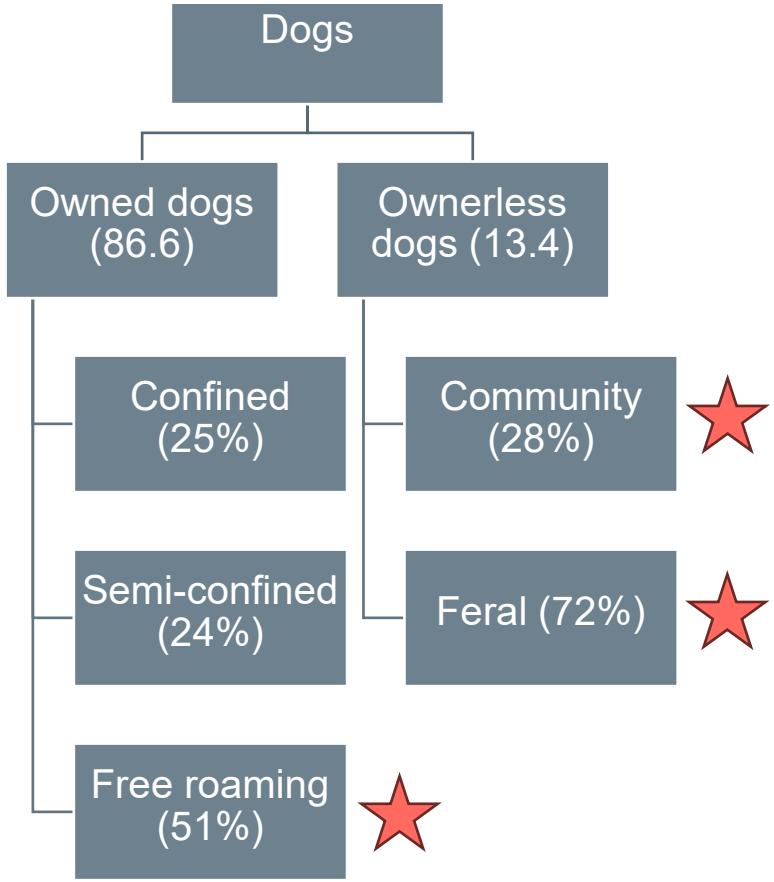
- This project aimed to increase vaccine coverage in high-risk areas by using ORVs as complementary to parenteral rabies vaccine
- Study areas were 3 Districts in Chonburi province (Banglamung, Siracha, and Sattahip)
  - High-risk area identified by the spatial modelling approaches
  - During 2021-2023, averaging 5 cases per months (Ranged 1-13 cases)
  - A tourist attraction

Study designs





Spatial Distribution and Population Estimation of Dogs in Thailand: Implications for Rabies Prevention and Control



Study designs

- Vaccination (ORVs and parenteral vaccines) were targeted on dog subpopulation with low vaccine coverage including
  - Feral ownerless dogs
  - Community ownerless dogs
  - Free-roaming owned dogs
- Goal: > 80% of the targeted subpopulation would be vaccinated.
- Estimate the number of dog population based on the results of the study (https://www.frontiersin.org/journals/veterinary-science/articles/10.3389/fvets.2021.790701/full)
- 10,000 doses of ORVs supported by WOAH and parenteral vaccines provided by DLD

Project implementation

1.Planning
- WOAH, DLD, and stakeholders

2023

2.ORVs procurement

3.Training field staff / planning

4.Vaccination

2024

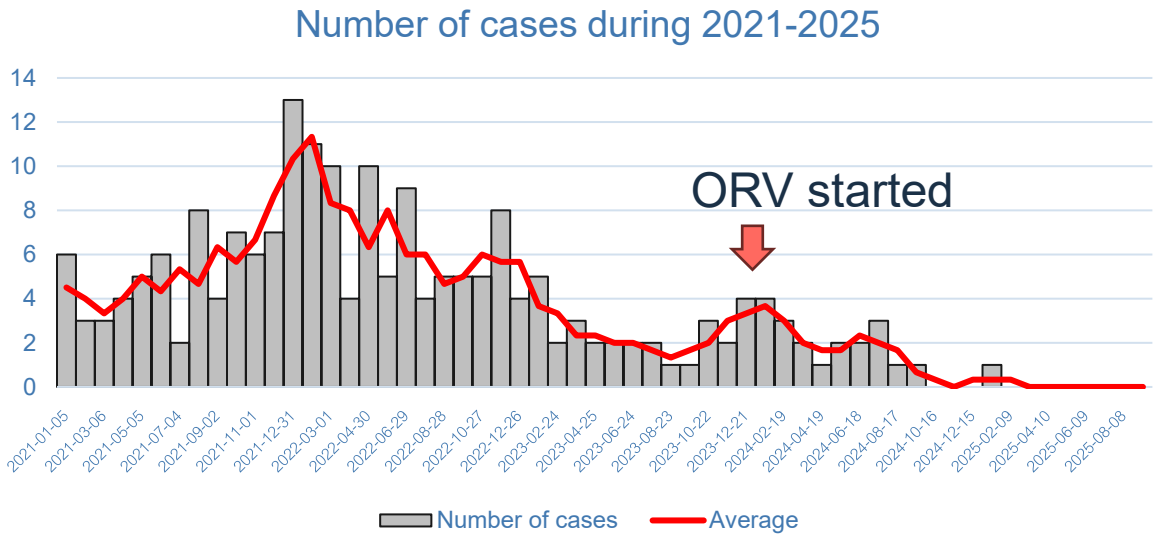
5.Evaluation

Results of the project

District	No. of areas	No. of targeted dogs	No. of parenteral Vaccine	No. of ORV	Average vaccine Coverage
Banglamung	86	1,565	179	734	70.64
Siracha	202	5,244	220	4,369	85.35
Sattahip	96	3,374	19	2,682	80.88
Total	384	10,183	418	7,785	80.95

- There were 7,785 doses of oral rabies vaccine and 418 dose of parenteral vaccine were vaccinated to the targeted dogs (81%)
- There were 384 dog habitat sites, visited in this study, most of the dogs were community dogs (69%), followed by feral dogs (15%), free roaming owned dogs (13%), and un-identified dogs (3%)
- There were some amounts of oral rabies vaccine loss or failure with rate of approximately 22 percent.

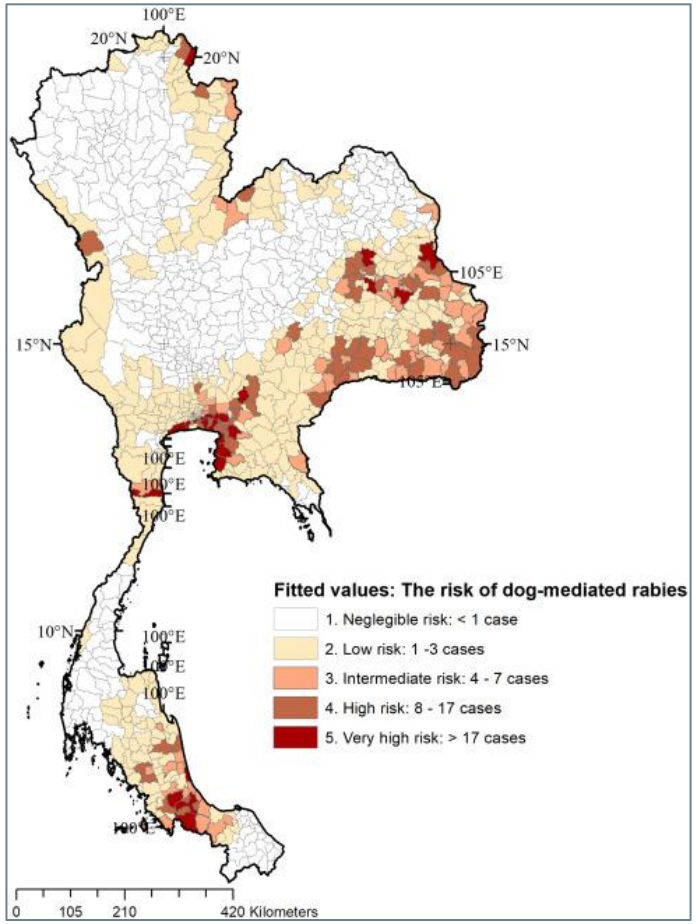
Evaluation of effectiveness of ORV



District	Date start	Date finish	Date of last new case	Period distance from start date
Banglamung	10 Jan 2024	29 Feb 2024	7 Feb 2025	394 days (13 month)
Siracha	19 Jan 2024	28 Mar 2024	5 Aug 2024	199 days (7 month)
Sattahip	12 Feb 2024	11 Apr 2024	9 Oct 2024	240 days (8 month)

- After the targeted subpopulation vaccinated at the beginning of 2024, rabies cases in the targeted districts initially persisted for a short period, consistent with the expected timeframe for the development of protective immunity.
- Subsequently, the number of new cases began to decline significantly.
  - During January – April 2024, there were 3 averaged cases per months (ranged 2-4 cases), reduced to 2 cases per month during May-August 2024. Only one case occurred during September-December 2024 and only one case occurred in February 2025.

Next steps

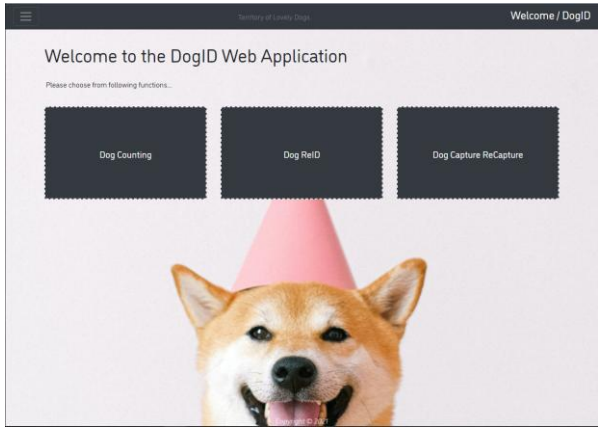


- The results from the pilot project in Chonburi Province demonstrate that the combined approach can achieve high coverage, reducing the pool of susceptible animals, and interrupting transmission in high-risk areas.
- Next plan
  - ORV will be used in high-risk areas in the country as supplementary vaccine, targeting the free-roaming dogs with low vaccine coverage
  - ORV will be used in Chonburi as supplementary vaccine to maintain herd immunity
  - Funding for ORV will be provided by Thailand Science Research and Innovation (TSRI)
  - Training local staff particularly in high-risk areas for ORV implementation

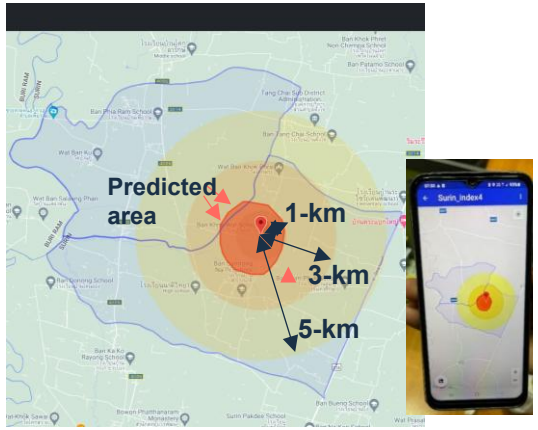
What additional support/expertise can the UAR Forum provide to help you accelerate efforts over the next 12 months?

United Against Rabies

DogScan



Predicting rabies outbreak area



Capture and restrain dogs

Shooting vaccine

- Organizing forum for sharing researches and innovation such as
  - Epidemiological study and tools
  - Dog registration and identification
    - Dog scan (Photo recognition)
  - Dog capture techniques
  - Vaccination techniques
    - Oral rabies vaccine
    - Shooting vaccine
  - Techniques for dog population control
    - Sterilization of male dog without castration by using nanoparticles to induce apoptosis of cells
    - Female dogs?

Acknowledgement

- Dr.Onpawee Sagarasaeranee and DLD staff
- Kasetsart university (Faculty of Vet Med)
- Mahidol university (Faculty of Vet Science, Faculty of ICT, and Faculty of Trop.Med)
- WOAH SRR-SEA (Bangkok)
- Other partners