

World Organisation  
for Animal Health  
Founded as OIE



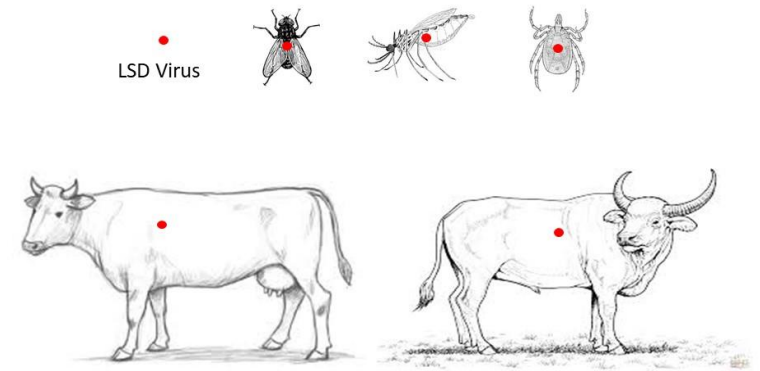
# Updates on LSD activities in Southeast Asia (ASEAN region)

Karma Rinzin  
WOAH SRRSEA  
Bangkok, Thailand

East Asia CVO/Contact Persons Meeting on PPR & LSD  
24 – 26 July 2023  
Qingdao, People's Republic of China

# Outline

- Background
  - LSD situation in Southeast Asia
  - WOAHA SRRSEA interventions
- LSD activities
  - Knowledge sharing
  - Capacity building
  - Coordination and communication
- ASEAN LSD Strategy
- Way Forward



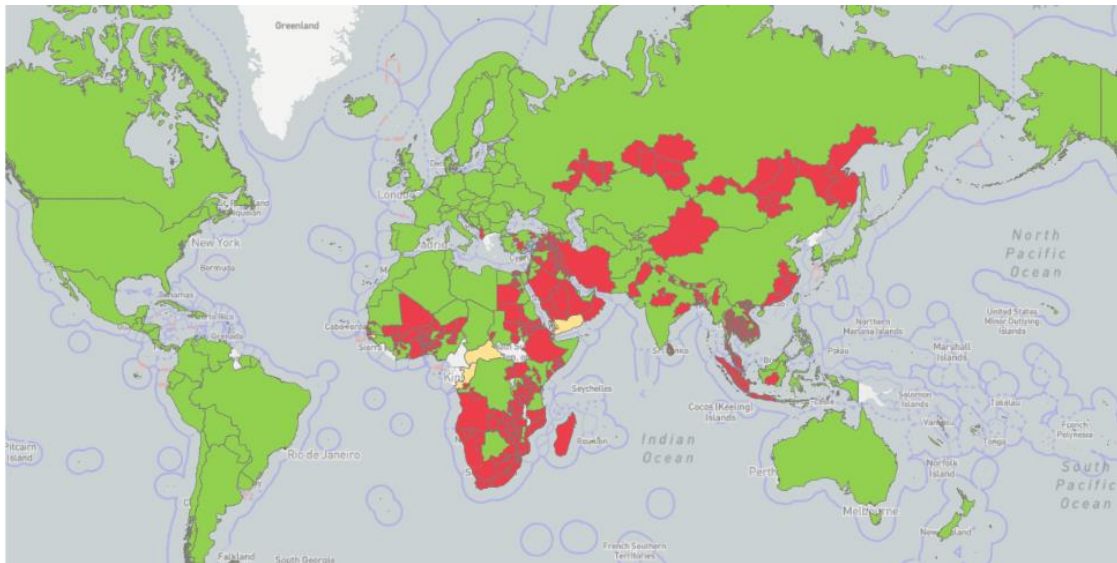
# Background

- LSD is vector borne pox disease of domestic cattle and Asian water buffalo
  - Etiology: Capripoxvirus (CaPV) within the family Poxviridae.
  - Spread: mainly by blood-feeding arthropod vectors (mosquitoes, biting flies and ticks), Long distance spread is mainly by movement of animals
  - Incubation period ranges from 4 to 14 days in the experimental settings and up to 5 weeks in field condition.
  - It heavily impacts animal health and welfare and can lead to severe economic losses in affected farms.

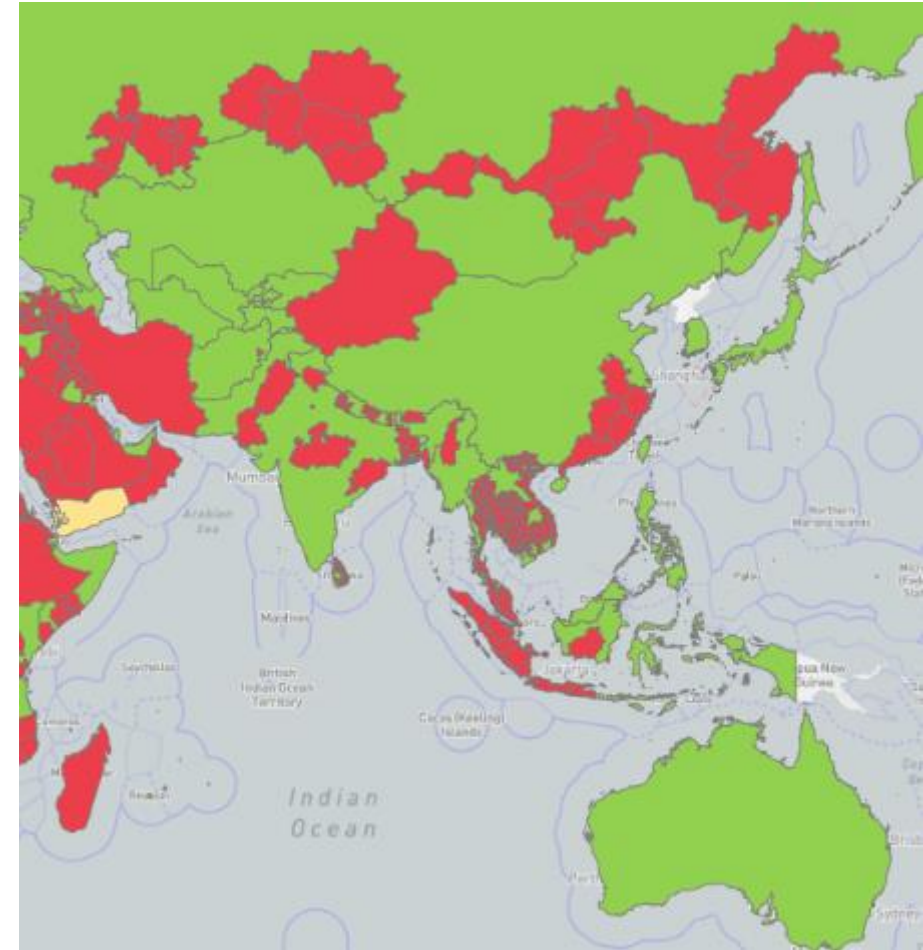




# LSD – disease distribution – 2019 - 2023

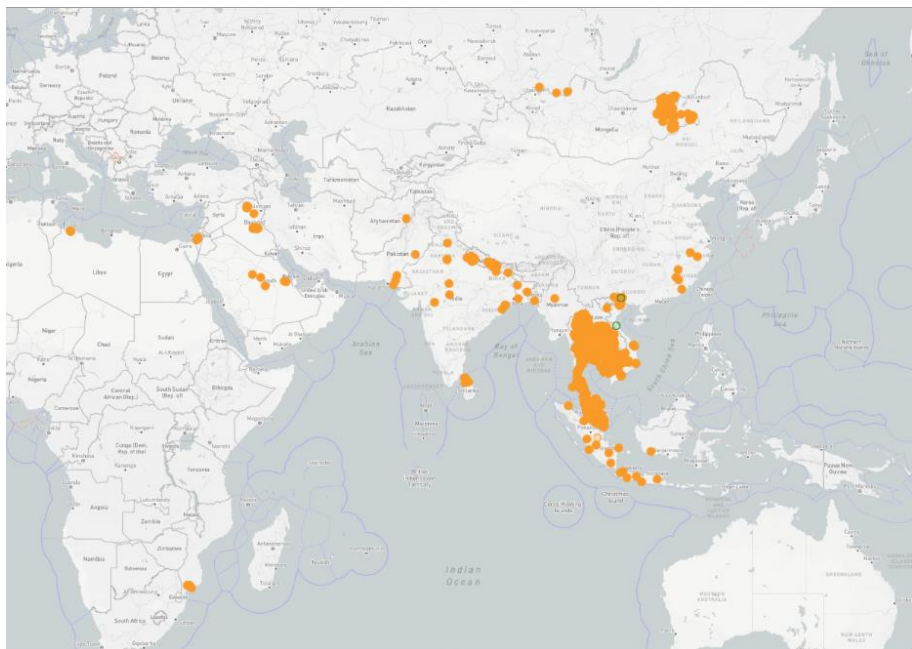


**Global (country disease presence): 59**

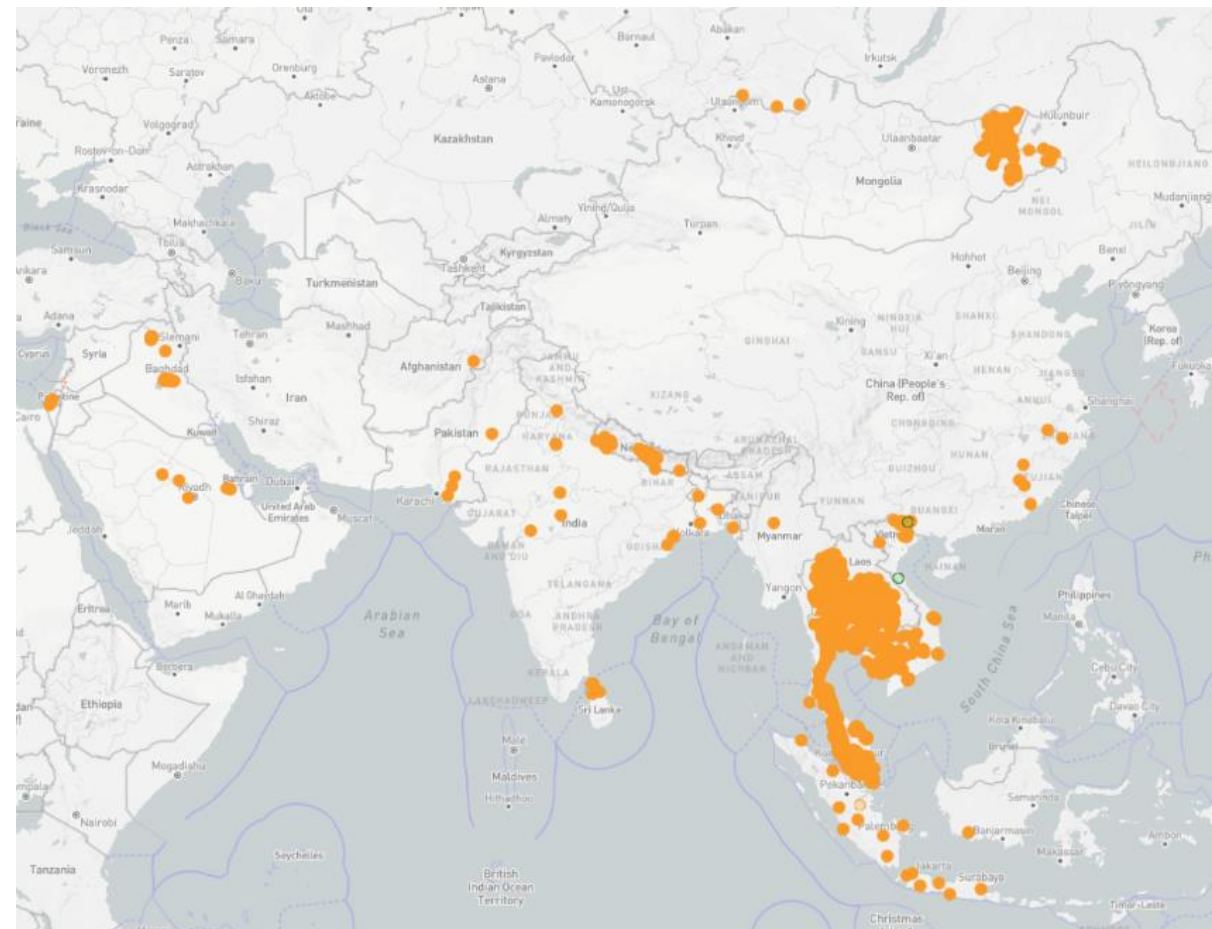


**Asia-Pacific (Members presence): 21**

# LSD – Outbreaks – 2019 - 2023

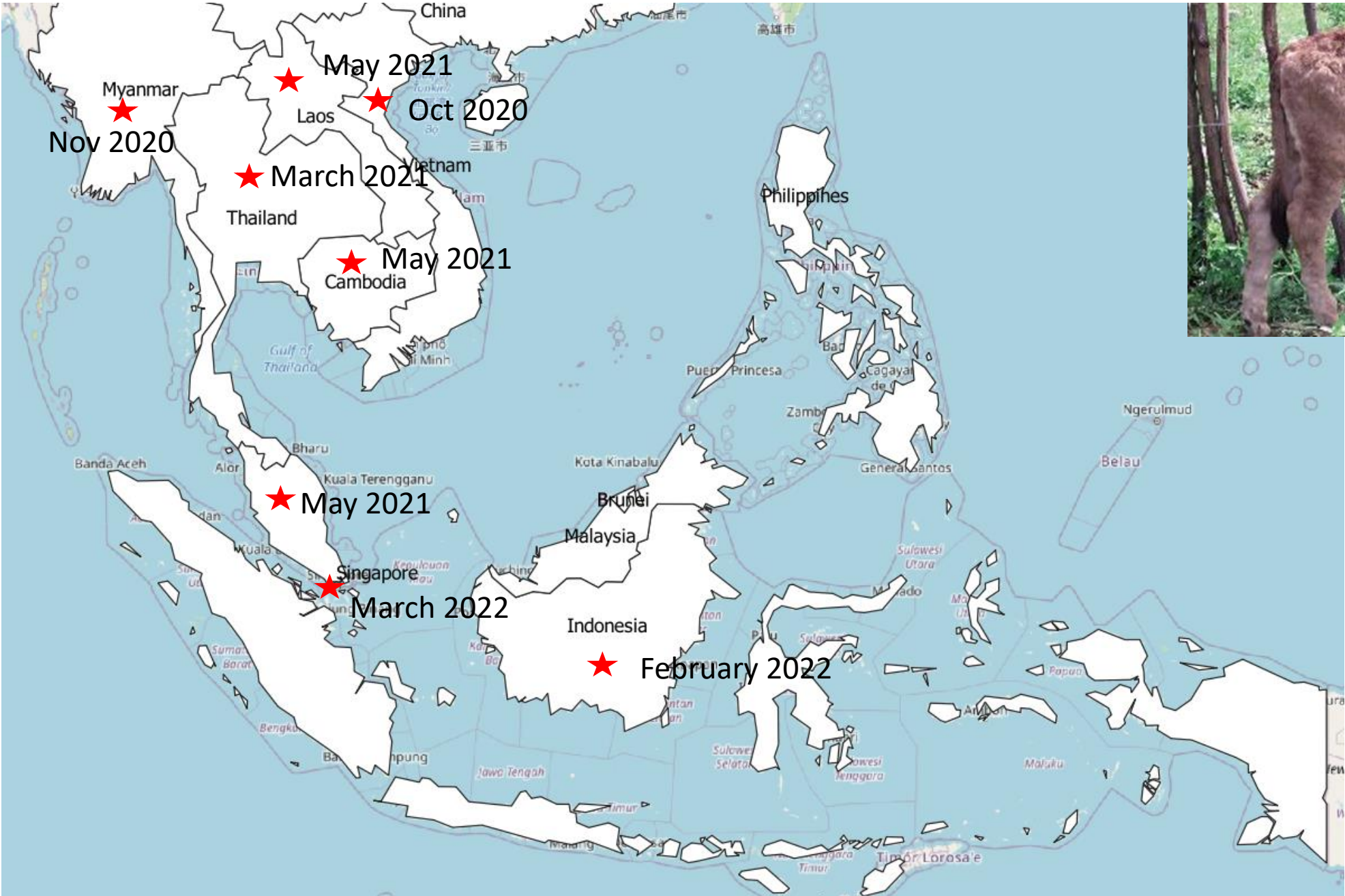


**No. of outbreaks - Global: 1655**



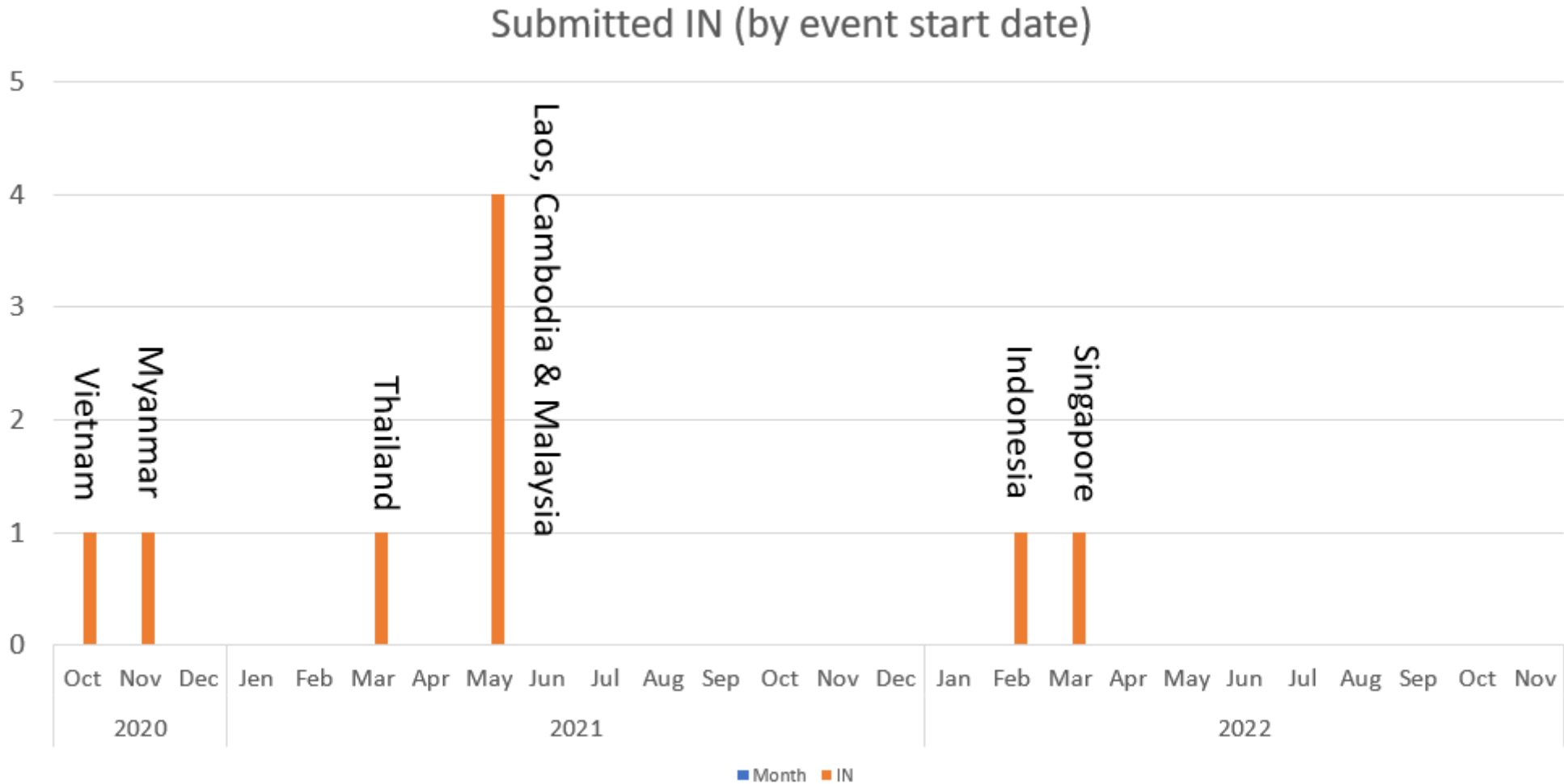
**No. of outbreaks - Asia-Pacific Members: 1623**





**Chronology of reported LSD outbreaks in SEA (based on country report)**

# Temporal pattern (2020 – 2022) ASEAN Member States – IN reports received by event start date (based on country report)





# LSD in wild animals in Thailand



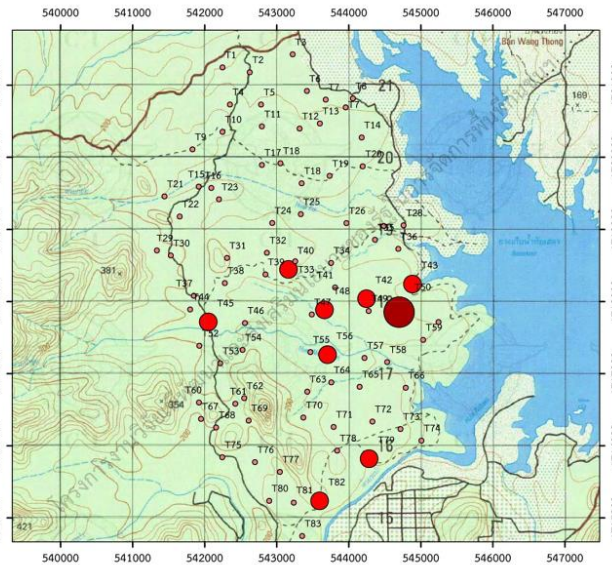
Guar (*Bos Gaurus*)



Mainland serow (*Capricornis sumatraensis*)



Banteng (*Bos javanicus*)



โครงการวิจัยเพื่อพัฒนาและส่งเสริมโยธาของรัฐ  
 ในการจัดการพื้นที่ภูเขาศรี

**สัญลักษณ์**  
 ตำแหน่งที่ตั้งค่ายภาพสัตว์ป่า  
 ความถี่การพบโรคในวัวแดง  
 รอบ 3 เดือน (พ.ค.-ก.ค.)

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\*ข้อมูลการปรากฏของวัวแดงเดือนก.ค.-ก.ค. 2564  
 พบวัวแดงที่วัดป่าโพนทรายเขตรักษาพันธุ์สัตว์ป่าภูเขียว



ส่องกระทิงเขาแผงม้า ห้วยโรคลัมปี สกิน



แพนซำ

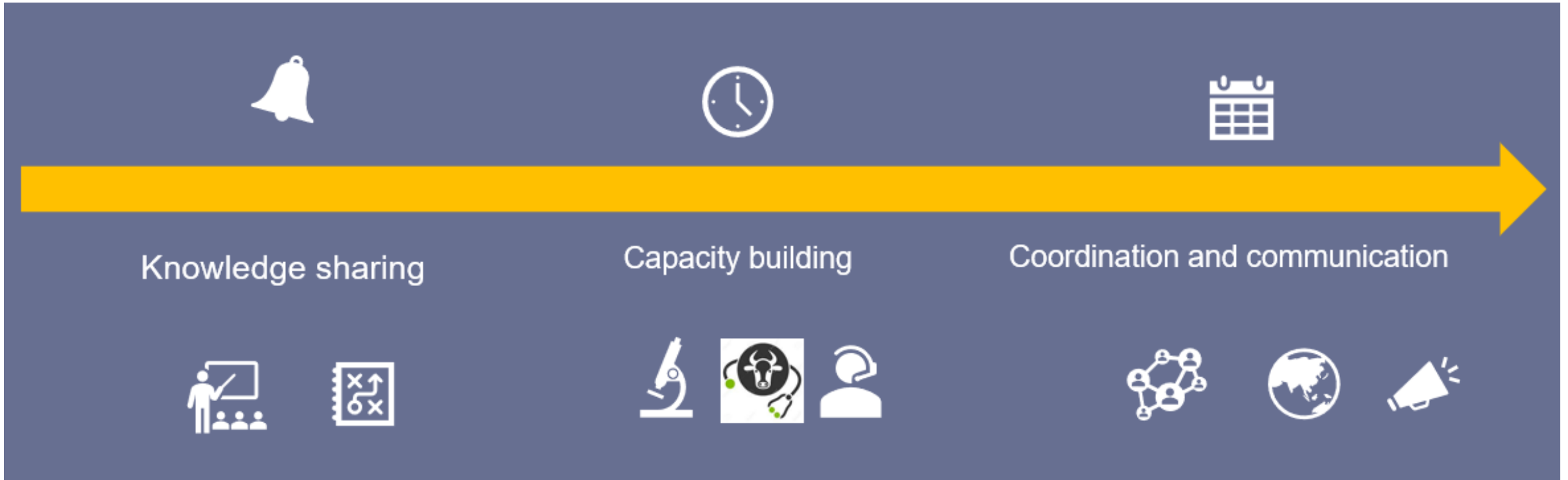
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# Highlights of activities in response to LSD Outbreaks in Asia and Pacific

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# Knowledge Sharing - LSD Webinars

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Emergency Response  
17 July 2020



Laboratory Diagnostics  
24 September 2020



General Consultation  
25 Sep 2020



Regional Situation Update  
21 Dec 2020 & 26 Aug 2021



<https://rr-asia.woah.org/en/events/lumpy-skin-disease-webinar-series/>



# Capacity Building Programme



## Training of Trainers (ToT) on outbreak

investigation (31 May – 8 July 2021)

21 participants from 9 countries



## Epidemiology study design training

(11 Nov – 10 Dec 2021)

34 participant from 11 countries.



Infectious disease modelling training  
(21 Feb – 31 March) – Ongoing  
40 participants from 12 countries are  
attending the course.



## Advanced GIS training

(27 July - 30 Aug 2021)

31 participants from 10 countries.



## Transborder value-chain analysis in South-East Asia and the Pacific

16 participants from 5 countries



## Cross Border Risk Assessment

(Sept 2020 to May 2021)

*22 Participants from 13 countries.*



## LSD Vaccine Quality Control Introductory Training (26 July 2022)

# LSD Coordination meeting for South East Asia

## First LSD Coordination Meeting 11 June 2021



Updates on LSD situation and its control in the region;

LSD Preparedness by those countries at risk;



Practical Prevention and Control of LSD



Updates and FAO/ WOAH Tools and resources for prevention and control LSD

## Collaboration and coordination with Partners



Food and Agriculture Organization of the United Nations



FRIEDRICH-LOEFFLER-INSTITUT

**FLI**

Bundesforschungsinstitut für Tiergesundheit  
Federal Research Institute for Animal Health

Member Countries

Donors

WOAH Reference Laboratories and Reference Centres

LSD Experts



# LSD Coordination meeting for South-East Asia

## Second LSD Coordination Meeting 16 December 2021



Updates on LSD situation and its control;



Updates on the implementation of LSD vaccination;



Provide platform to discuss on various issues related to LSD vaccination and access to quality LSD vaccines

## Key Challenges in LSD vaccination and to access quality LSD vaccine

- Seeking approval from the Government to carry out LSD vaccination and emergency registration and procurement of LSD vaccines.
- Since LSD is an exotic disease, the members took time to make decision to consider LSD vaccination to control LSD and to register and source LSD vaccines.
- Source of reliable vaccines – vaccine seeds, quality, efficacy, safety, purity, side effects
- Vaccine registration and Legislation related to LSD vaccination – LSD vaccines not registered or authorized in countries that face the disease for the first time.
- Procurement: delays during the high international demand for quality vaccines
- Cold chain – Requirement to use the vaccine within two hours after reconstitution.
- Financial – Fund availability with the VS and affordability by the farmers

<https://rr-asia.woah.org/en/events/second-lumpy-skin-disease-lsd-coordination-meeting-for-south-east-asia-implementation-of-lsd-vaccination/?preview=true>

# LSD Coordination meeting for South-East Asia

**Third LSD Coordination Meeting**  
**16 December 2022**

**Global LSDV situation with  
focus on the recombinant LSDV  
strains predominating the LSDV  
epidemic in South-East Asia**

NICK DE REGGE



Updates on LSD situation and its control including vaccination;



Share experiences and lessons learnt in implementation of LSD prevention and control measures



Identify priority needs and actions to enhance LSD prevention and control

## **Priority needs and actions to enhance LSD prevention and control in Southeast Asia**

- Enhance knowledge and understanding of LSD in SE Asia
- Enhance LSD diagnostic capacity
- Enhance LSD vaccination coverage
- Enhance advocacy and awareness
- Enhance Preparedness and Response
- Enhance coordination and collaboration
- Develop AEAN LSD Prevention and Control Strategy



# Frequently Asked Questions

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- [Q&A – Expert response to questions raised by the participants](#)
- [FAQ on LSD \(14 Jun 2022\)](#)
- [FAQ on LSD Vaccination \(3 Sep 2021\)](#)

<https://rr-asia.woah.org/en/events/lumpy-skin-disease-lsd-coordination-meeting-for-south-east-asia/>



*Review*

## Review: Vaccines and Vaccination against Lumpy Skin Disease

Eeva Tuppurainen <sup>1,\*</sup>, Klaas Dietze <sup>1</sup>, Janika Wolff <sup>2</sup>, Hannes Bergmann <sup>3</sup>, Daniel Beltran-Alcrudo <sup>4,†</sup>,  
Anna Fahrion <sup>1</sup>, Charles Euloge Lamien <sup>5</sup>, Frank Busch <sup>1</sup>, Carola Sauter-Louis <sup>3</sup>, Franz J. Conraths <sup>3</sup>,  
Kris De Clercq <sup>6</sup>, Bernd Hoffmann <sup>2</sup> and Sascha Knauf <sup>1</sup>

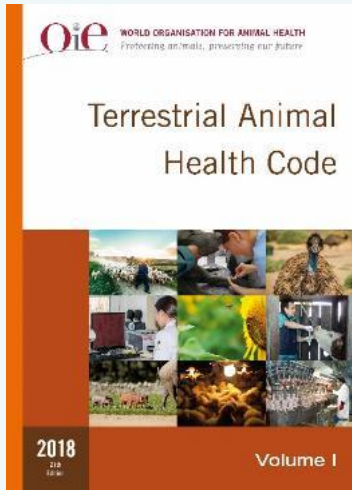
# Support to Members



Advice through emails on Do's and Don'ts and provide source of resources including Ref Labs

- Affected countries
- Neighbouring countries at risk of incursion

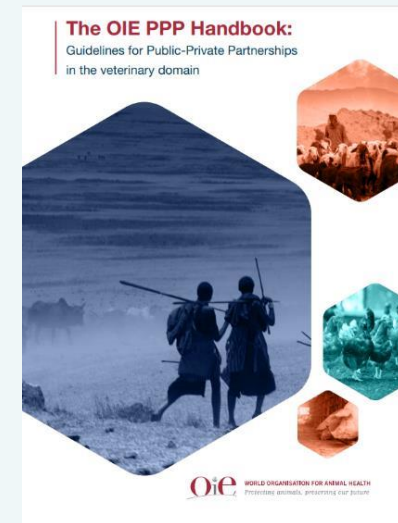
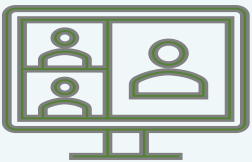
WOAH terrestrial Animal Health Code and Terrestrial Manual (Both horizontal and Vertical Chapter - [Chapter 11.9](#). and Chapter 3.3.12: [Lumpy skin disease](#) )



Facilitate technical virtual consultation between affected countries and LSD Experts

Network with WOAH Reference Laboratories

Other advice and support as and when sought by Members





# LSD Communication Materials

## Lumpy skin disease

a new threat to the region

Lumpy skin disease (LSD) is a viral disease of domestic cattle, water buffaloes and certain wild ruminants. Its incubation period is about 28 days but experimentally infected cattle may develop clinical signs as early as 6-8 days. This disease heavily impacts animal health and welfare and can lead to severe economic losses in affected farms.

LSD has recently spread to and within Asia, posing a threat to your country.

### How do animals get infected?

- Mainly by blood-feeding arthropod vectors.
- Through bringing in infected cattle from affected regions.



### When to suspect LSD?

- Ocular (eye) and nasal discharge – usually observed first.
- Decreased milk yield in lactating cattle.
- High fever that may exceed 41 °C or 106 °F.
- Enlarged subcutaneous and prefrontal lymph nodes (swollen palpable).
- Appearance of firm cutaneous nodules of 2-6 cm in diameter, particularly on the head, neck, limbs, udder, genitalia and perineum within 48 hours of onset of fever.
- Number of nodules varies from few in mild cases, to multiple lesions in severely affected animals.



### What to do in case of LSD suspicion?

- Contact the Veterinary Services.
- Prevent further spread of the disease by asking the animal owners/keepers to:



- Carry out clinical examinations on the rest of the animals, in order to identify the disease at very early stages.
- Provide supportive treatment to affected animals to reduce the fever, maintain hydration and prevent secondary bacterial infections.
- A vaccine exists to protect the cattle.

Contact the Veterinary Services for more information on the vaccine.

#### For more information:

OIE regional webpage on LSD: [www.oie.int/en/faq/2015/lumpy-skin-disease-16/](http://www.oie.int/en/faq/2015/lumpy-skin-disease-16/)



### Lumpy skin disease (LSD)

- LSD is a viral disease of domestic cattle, water buffaloes and certain wild ruminants.
- Incubation period of LSD is 28 days but experimentally infected cattle may develop clinical signs as early as 6-8 days.
- It heavily impacts animal health and welfare and can lead to severe economic losses in affected farms.
- LSD has recently spread to and within Asia, posing a threat to your country.

### How do animals get infected?

- Mainly by blood-feeding arthropod vectors (mosquitoes, biting flies and ticks).
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#### For more information:

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FAO, 2017. Lumpy skin disease field manual - A manual for veterinarians. [www.fao.org/3/a/i2502e.pdf](http://www.fao.org/3/a/i2502e.pdf)

Check the latest information on the evolution of LSD in the region:

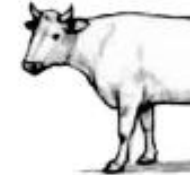
Consult the OIE LSD B patient surveillance system: [www.oie.int/eng/monitoring/healthcare/lumpy-skin-disease-16/](http://www.oie.int/eng/monitoring/healthcare/lumpy-skin-disease-16/)

Subscribe to OIE-VLMH alerts: [www.oie.int/eng/monitoring/healthcare/lumpy-skin-disease-16/](http://www.oie.int/eng/monitoring/healthcare/lumpy-skin-disease-16/)

Contact us: OIE Asia and Pacific subregion office or OIE South East Asia subregion office

## Lumpy skin disease

a threat to the region



## How can you protect your country from LSD?

### When to suspect LSD?

- Initial signs:
  - Ocular (eye) and nasal discharge – usually observed first.
  - Decreased milk yield in lactating cattle.
  - High fever that may exceed 41 °C or 106 °F.
  - Enlarged subcutaneous and prefrontal lymph nodes (swollen palpable).
- Appearance of highly characteristic, reddish-white lesions of 2-6 cm in diameter:
  - Distensive nodules particularly on the head, neck, limbs, udder, genitalia and perineum within 48 hours of onset of fever.
  - The number of lesions varies from a few in mild cases, to multiple lesions covering the entire body in severely affected animals.



### What to do in case of LSD suspicion?

- Contact the Veterinary Services.
- Prevent further spread of the disease by asking the animal owners/keepers to:



- Carry out clinical examinations on the rest of the animals, in order to identify the disease at very early stages.
- Provide supportive treatment to affected animals to reduce the fever, maintain hydration and prevent secondary bacterial infections.
- A vaccine exists to protect the cattle.

Contact the Veterinary Services for more information on the vaccine.

## Protecting your animals from Lumpy skin disease

Lumpy skin disease (LSD) affects cattle and water buffalo. It is currently spreading in Asia affecting animal health and welfare, livelihoods, and food security.

LSD poses a threat to your animals.

### How your animals can get infected?

- Mainly by bringing insects such as mosquitoes, stable flies and ticks.
- By moving infected cattle from an area where the disease is present.



### When to suspect LSD?

- Discharge from eyes and nose.
- High fever.
- Decreased milk yield in lactating cows.
- Appearance of firm raised skin nodules, usually noticed first on head and neck.
- Number of nodules varies from few in mild cases to many covering the entire body in severe cases.



### What to do in case of LSD suspicion?

- Notify immediately to the local veterinarians or official Veterinary Services.
- Separate suspected case(s) from the rest of the herd.
- Monitor the health of animals everyday in order to identify sick animals.
- Stop cattle movement from/ to the farm.
- Seek advice from vets and parents to provide supportive treatment.

### How to prevent and control LSD in your farm?

- Only buy healthy animals from trusted sources.
- Keep farm/ sheds free from breeding sites for insects such as standing water and dung.
- Only allow visitors to your farm for essential services.
- A vaccine exists to protect your animals.

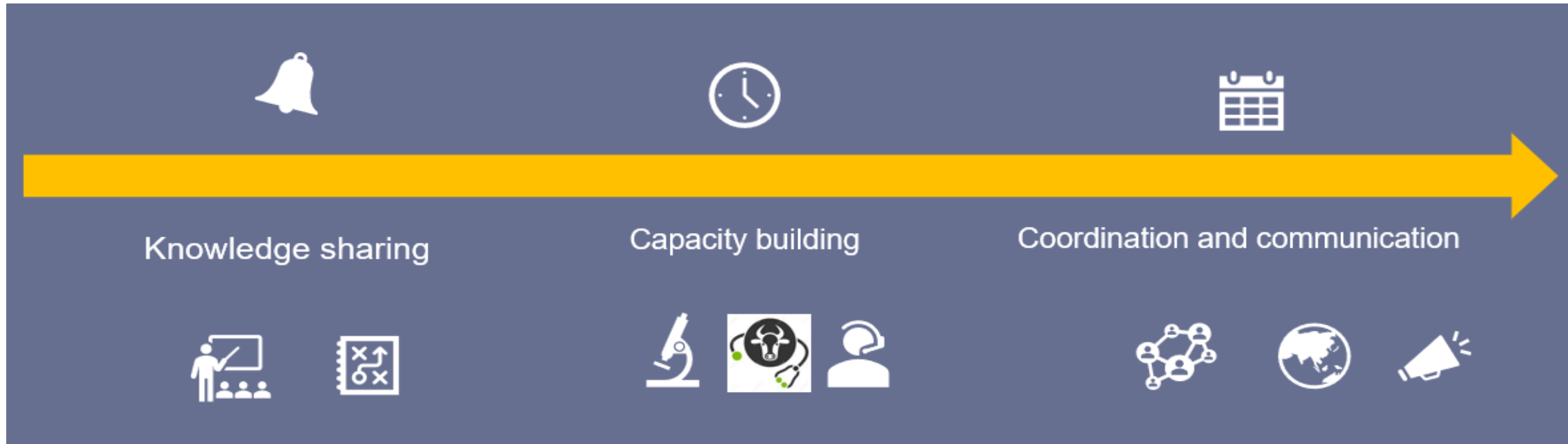
Contact your local vet or contact an official Veterinary Services for information on the vaccine.

#### For more information:

OIE regional webpage on LSD: [www.oie.int/en/faq/2015/lumpy-skin-disease-16/](http://www.oie.int/en/faq/2015/lumpy-skin-disease-16/)



# Highlights of activities in response to LSD Outbreaks



## Webinars

Emergency response  
Laboratory diagnosis  
General consultations  
Situation Updates

## Coordination Meeting & Communication

First Coord. meeting – information sharing and shared tools  
Second LSD Coord. Meeting – LSD vaccination  
Third LSD Coord Meeting – seek update Communication materials  
FAQ - LSD and LSD vaccination

Next:

- LSD Impact Assessment Study
- Guidelines for LSD vaccination
- Support development of ASEAN LSD Prevention and control Strategy

# Study to assess the impact of LSD

WOAH launched call for proposal – Chiang Mai University is carrying out study to assess the impact of LSD in Asia

Objective 1: review and analyse existing data, and information to better understand the epidemiological characteristic of the disease including the risk factors, introduction and spread of outbreaks, role of vectors in Asia.

Objective 2: assess management and control strategies of farmers, traders, and Veterinary Services during and post LSD outbreaks in two countries to identify best practices.

Objective 3: assess the socio-economic impact of LSD outbreaks on key stakeholders along the value chain in the 2 selected countries. i.e Thailand and Bangladesh



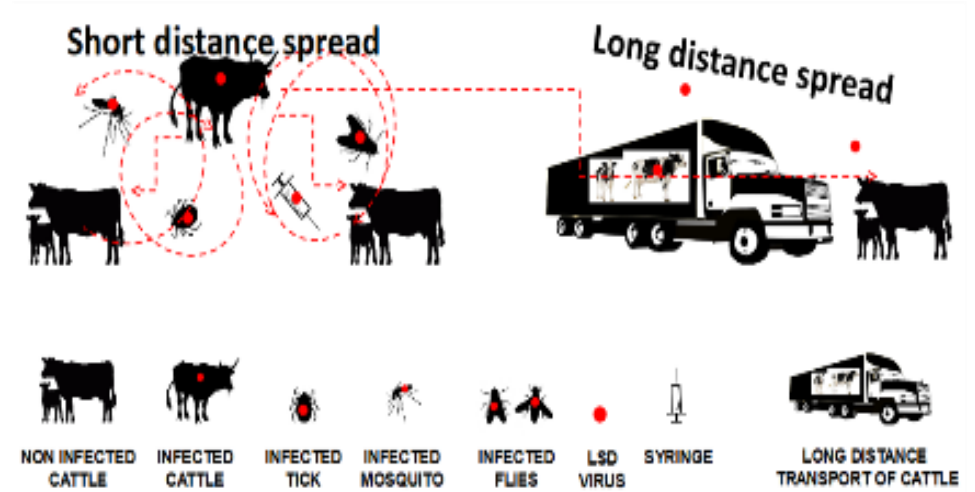
# Rationale for development of the strategy

- As with any other TADs, the LSD can effectively controlled when countries with a similar epidemiological situation work together in a coordinated manner to control the disease.
- The [GF-TADs Strategy for 2021-2025](#) recommends development of strategies for priority TADs at regional and sub-regional level to address their priorities for the control and prevention of TADs.
- Considering the wide spread of LSD in South East Asia (8 out of 10 countries affected) and importance of regional coordination for the effective control of LSD:
  - The Second LSD Coordination and 30<sup>th</sup> ASWGL Meeting in June 2022 recommended development of ASEAN LSD Prevention and Control Strategy



# Objectives of ASEAN LSD Strategy

- To effectively plan and coordinate actions to effectively control, prevent the spread and mitigate the impacts of LSD in South-East Asia.
- To develop capability of ASEAN Member States to better control (prevent, respond and eradicate) LSD.



# Scope of work

- To develop ASEAN LSD Prevention and Control Strategy in line with:
  - Global GF-TADs Strategy 2021 – 2025
  - Regional GF-TADs Strategy for Asia and the Pacific
  - Relevant WOAHA Standards and Recommendations, such as Chapter 11.9 and other relevant chapters
  - ASEAN Strategic Plan of Action for Cooperation on Livestock (2021-2025) and
  - ASEAN Strategy for Exotic, Emerging, Re-emerging Diseases and Animal Health Emergencies (2021).





# Methodology

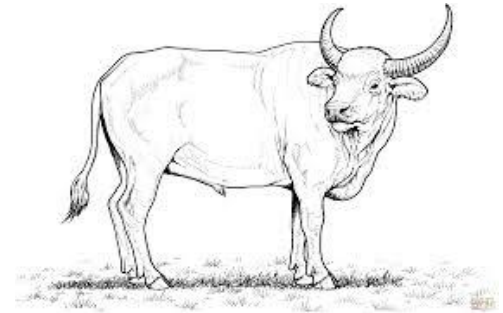
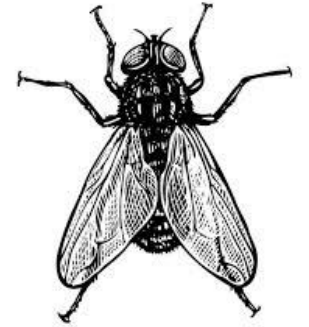
- Core Group for development of ASEAN LSD Prevention and Control Strategy
  - ASEAN Lead Country nominated by ASWGL - Thailand
  - Two ASEAN Co-Lead Countries nominated by ASWGL – Indonesia and Myanmar
  - Representative from WOAHA
  - Representative from FAO
  - Representative from ASEC/ ACCAHZ
- Advisory Group for development of ASEAN LSD Prevention and Control Strategy
- Consultative meeting/ workshop with AMS and relevant stakeholders to develop the strategy



# Ongoing and Planned Activities

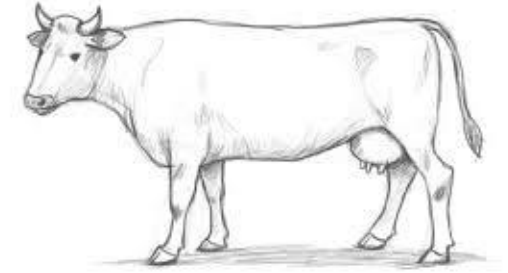
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- Understanding LSD
  - Circulating virus strain, epidemiology, assess impact etc – **Work being undertaken by Chiang Mai University**
- Diagnostic capacity
  - Assess the existing diagnostic capacity and identify gaps – **Questionnaire survey planned before the 4<sup>th</sup> coordination meeting**
  - Enhance diagnostic capacity – POC, serology tests, Molecular diagnosis, PT, training etc – **Planned**
- LSD Vaccination – **survey before the 4<sup>th</sup> Coordination Meeting**
  - Assess LSD vaccine usage and adopted strategies
  - Vaccine quality control – regional and country level

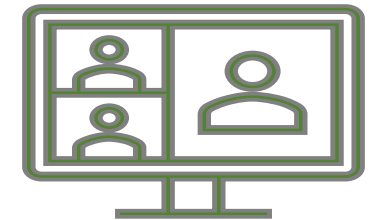


# Ongoing and Planned Activities

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- Advocacy and awareness
  - Advocacy to Policy makers - Policy brief for the decision makers – Ongoing for FMD which will be adapted for other LSD
  - Infographics and videos on the use on LSD vaccination and use of quality vaccines – Ongoing
- Coordination and collaboration
  - Nomination of National Focal Person for LSD by the Members - FP will be invited to attend 4<sup>th</sup> Coordination meeting
  - Coordination Meetings (virtual and in-person) – 4<sup>th</sup> coordination meeting planned
- Development of ASEAN LSD Prevention and Control Strategy in line with 30th ASWGL Meeting recommendations and GFTADs Strategy 2021 – 2025 - Ongoing



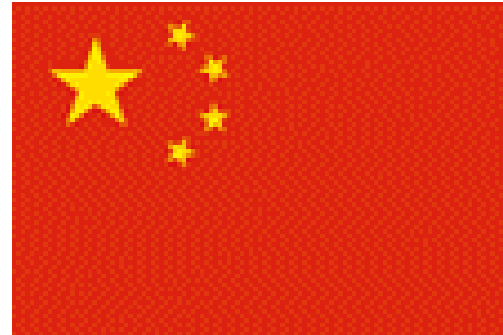


# Acknowledgements

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World Organisation  
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**ASEAN and AMS**

# Thank You

