

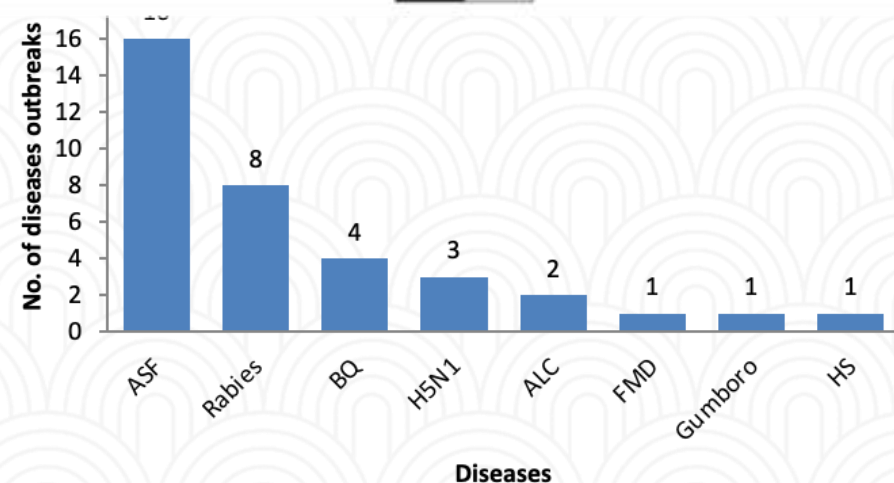
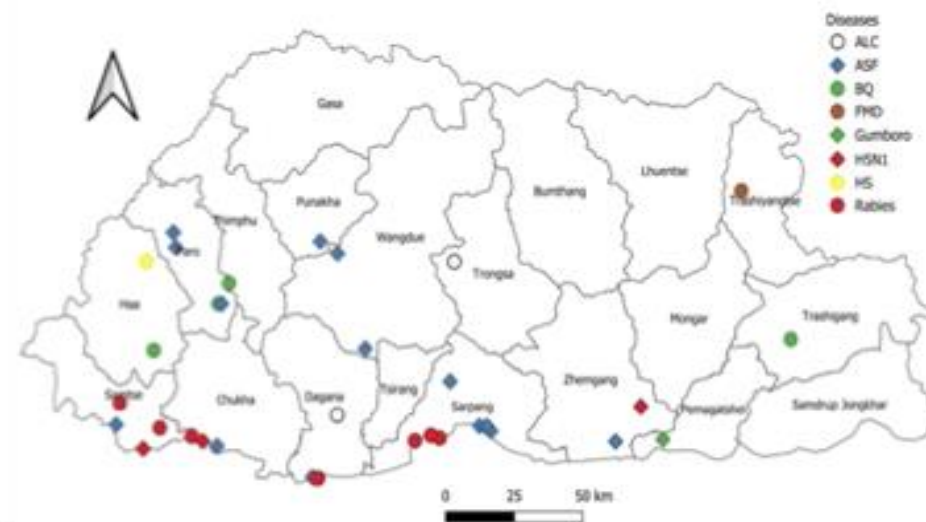
Joint Risk Assessment (JRA) in Bhutan

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One Health treat or Burden of zoonotic diseases in Bhutan

- Bhutan - High vulnerability - strategic geographic locations
- Biodiversity hotspots - 7.6% of the Himalayan Biodiversity Hotspot (CEPF, 2024), with 11,248 species
- High human-animal-wildlife interactions-spillover infections
- Biosecurity mostly poor
- Frequent outbreaks of zoonotic diseases - rabies, brucellosis, leptospirosis, COVID -19, bTB etc



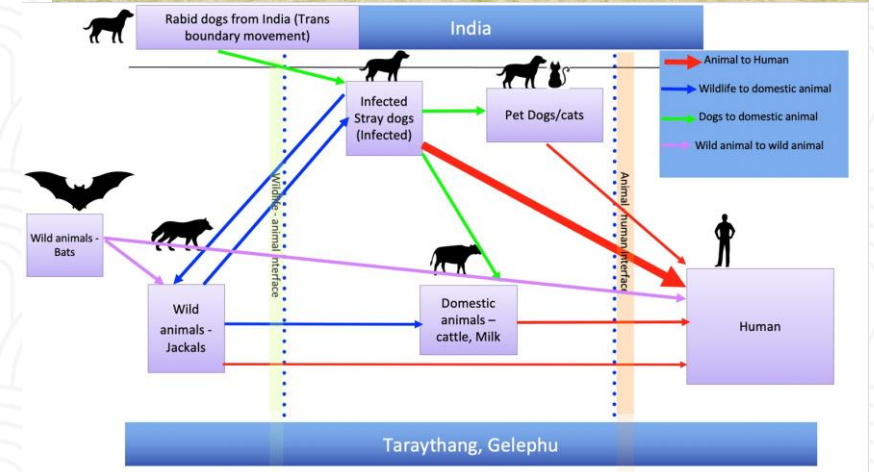
Key One Health activities in the country

- Bhutan developed One Health Strategic Action Plan (1st, 2nd and 3rd Editions)
- HR capacity development (OH masters, FETP, Lab.tech etc)
- OH stakeholder MoU signed in 2017, BOHS Office inaugurated in 2020
- Disease control plans and guidelines (NIPPP for Avian Influenza, Rabies, Anthrax, Scrub Typhus)
- National One Health Conference (5th Conferences till now)
- J-FETV (basic/frontline developed and endorsed, Intermediate level – development process)
- Wildlife Diseases Strategic Plan, NAMRSAP (2026-2030)



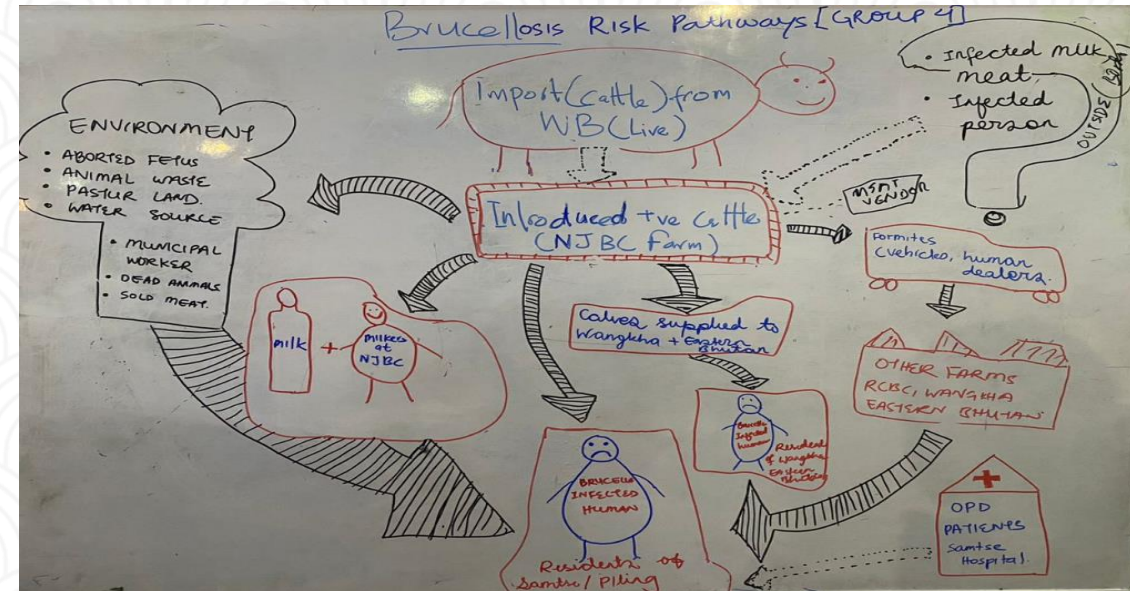
Joint Risk Assessment (JRA) Operational Tool

- Conducted in April-May 2024 back-to-back with Zoonotic Diseases Prioritization Workshop (OHZDP tool) - 3 days for JRA
- Technical support from Quadripartite (WHO, WOAH & FAO)
- Funding – Pandemic fund project (single country grant)
- Resources –Quadripartite JRA-OT tool and CDC OHZDP tool



Joint Risk Assessment (JRA) & Operational Tools

- Case scenario based sessions - rabies, anthrax, HPAI and leptospirosis
- Discussions in groups – intersectoral, collaborative and fruitful
- Data gaps were identified during the discussions
- Activities – hazard & risk questions, develop risk pathway, assess likelihood and consequences, risk matrix, management and communication
- Sessions provided a good practice for the participants



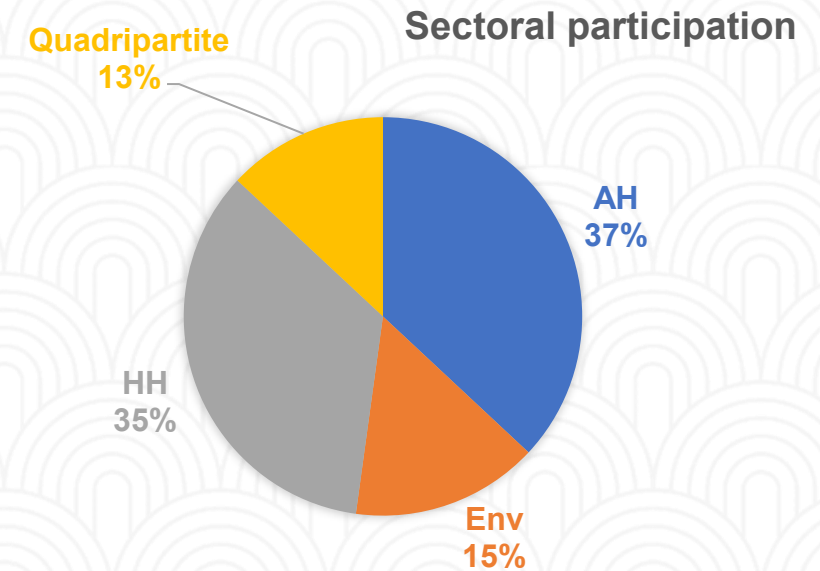
Approach taking to implement the activities

- Risk mapping and profiling of top 2 priority diseases – Rabies and Leptospirosis
- Both diseases are among top 10 priority diseases identified during OHZDP workshop
- Two-days recap on JRA-OT conducted during May 2025
- Formed teams for rabies and leptospirosis and identified the team lead
- The workshop discussed on type of data, data gaps and agreed on data template
- Each team agreed to work collectively to collect data for analysis



Tools and stakeholders

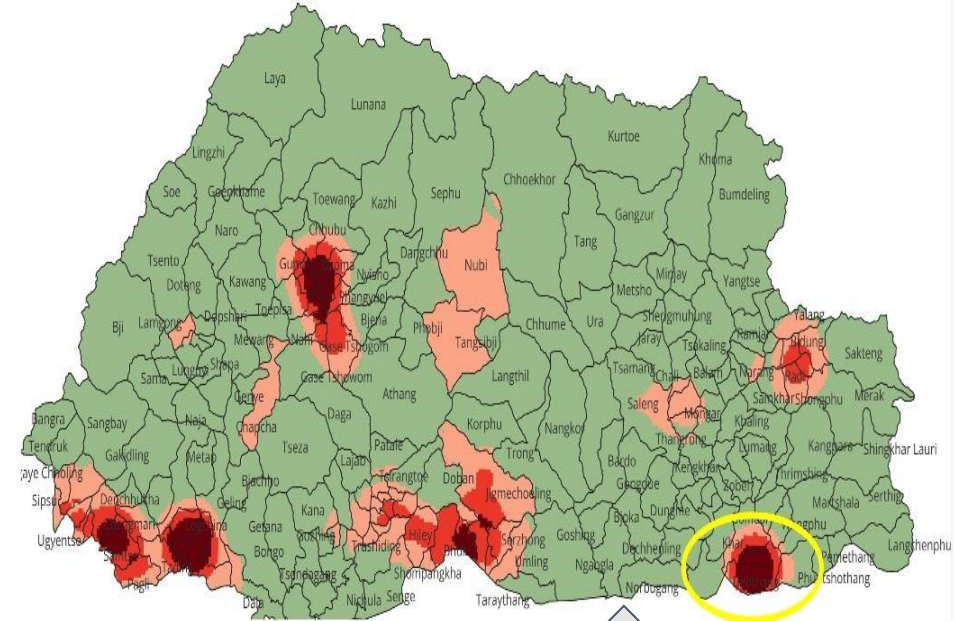
- **In JRA** - Expert and representative of all stakeholder present – Animal Health, Human Health, Environment, Wildlife, University, field, tripartite, BFDA
- **Tools** : Joint Risk Assessment Operational Tools developed by WHO, FAO and WOAH
- **Risk mapping** – Experts from animal health, human health, WHO, university
- **Tools** : QGIS – weighted overlay and classification



Impacts and outcomes

- Risk profile maps of the Leptospirosis and rabies developed
- Risk classification at the geog (sub-district) levels (low, moderate, high and very high risk)
- Interim risk map shared with key key agencies to support in disease prevention and control plan
- Risk mapping completed on 24 June 2025 and first suspected lepto cases reported on 27 June.
- It supported ruling in leptospirosis (rule out other diseases)
- Rabies risk map supported targeted surveillance and elimination of dog-mediated rabies to achieve 'Zero by 30' goal
- Risk maps support to identify the hotspots areas for outbreaks

Leptospirosis Risk Profile Map of Geogs of Bhutan conducted on 23-25 June 2025 in Punakha under Bhutan One Health Initiatives



Leptospirosis outbreak area - South-eastern Bhutan (Exposure ~250 individuals; 180 plus positive and 3 deaths in late June 2025).

Thank you!

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