



World Organisation
for Animal Health
Founded in 1924

中华人民共和国农业农村部
Ministry of Agriculture and Rural Affairs of the People's Republic of China

Best practices on diagnostics, surveillance and control/elimination efforts for Bovine TB/zoonotic TB

Dr. Bidur Prasad Gautam
Senior Veterinary Officer

Animal Quarantine Office Morang
Department of Livestock Services, GoN

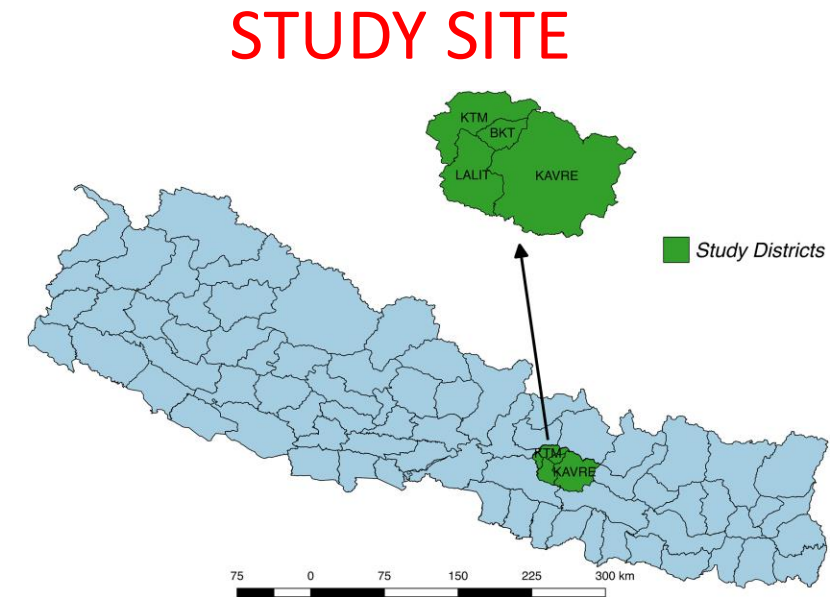




- Neglected Zoonotic Disease in Nepal
- No pertinent data on economic loss

Prevalence in Domestic Livestock

- Gompo et al., 2020 reported 5.7 % sero-positive in Cattle.
- Pandey et. al., 2012 reported 13.6% in cattle and 15.4 percent in buffaloes.
- Substantial association between human and animals





Tuberculosis in Elephants

- Emerging threat to survival of elephants in Nepal
- Elephant population in Nepal - 200 in Captive and 227 in wild
- Studies reveal 13 to 22 % sero- positive cases in Elephants .(A.K. Ram *et al.* 2021, Gaire, K. 2002)
- Different lineages of *Mtb*- Indo-Oceanic, Beijing Lineage and CAS-Delhi (Dominant- Indo-Oceanic Lineage)





TB BURDEN IN NEPAL

Around, one hundred and seventeen thousand, **117,000** (88,000 – 145,000) people with TB disease are living in Nepal today.

Urgent action is required to accelerate TB response in Nepal #to END TB#

Around sixty-nine thousand, **69,000** (41,000 – 103,000) people developed TB in 2018. TB burden is much higher, almost 1.6 times higher than previously estimated.

National TB prevalence survey (2018–2019) suggested significant impact of efforts on TB epidemiology in Nepal, that had led to an estimated annual reduction of TB incidence by **3%** in the last decade.

This decline is better than the global annual decline rate of **1.5%–2%**. However, this decline needs to be further accelerated to meet the End TB targets.

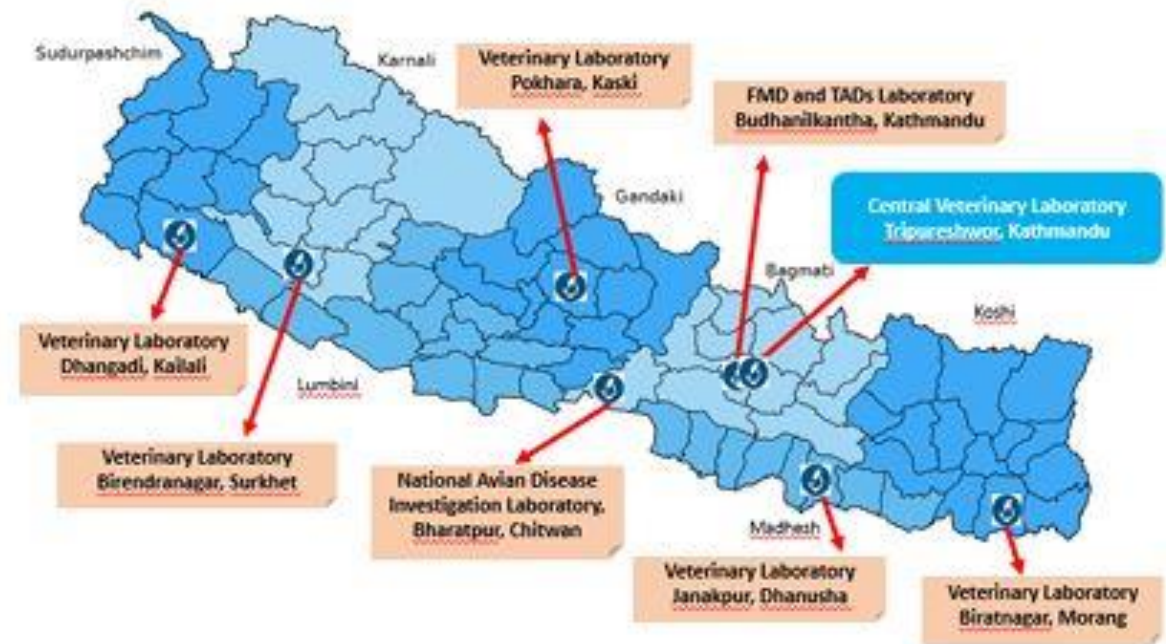
Estimates of TB burden, 2078/79*	Number	Rate (per 100000 Population)
Total TB incidence	69000	229 (137-345)
HIV positive TB incidence	540	1.8 (1.1-2.8)
MDR/RR-TB incidence	2800	9.5 (4.5–14)
HIV negative TB mortality	17000	58 (32–91)
HIV positive TB mortality	220	0.73 (0.41–1.2)



- Central Veterinary Laboratory – BSL 2+ Lab (Bacteriology, Molecular Biology)
- Regional Laboratories- Serology Unit, Bacteriology (5 in No.)

Diagnostic Tests

- Intra-dermal tuberculin test
- Rapid test
- ELISA
- RT-PCR





- Diagnostic tests- Culture for Isolation, Molecular technique, Serology (DPP)



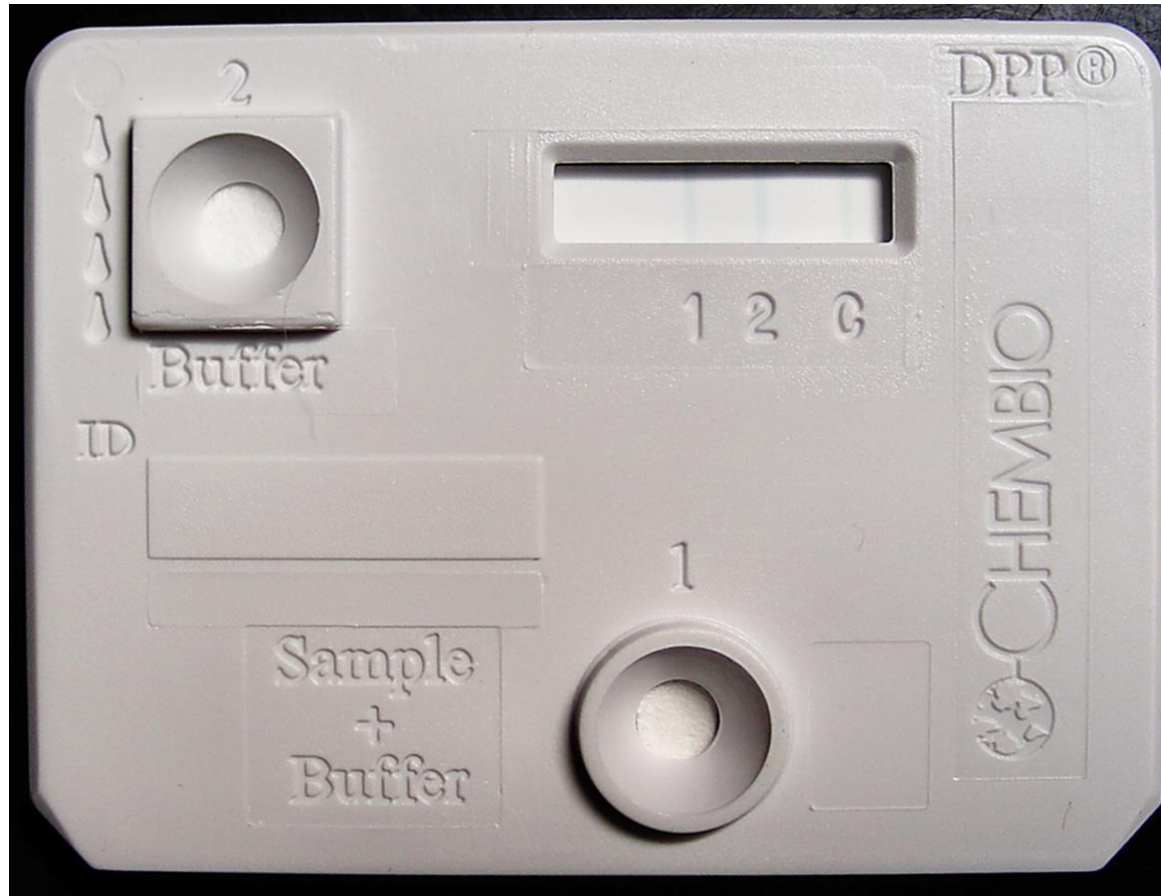
Trunk Wash



Modified Trunk Wash in Asia



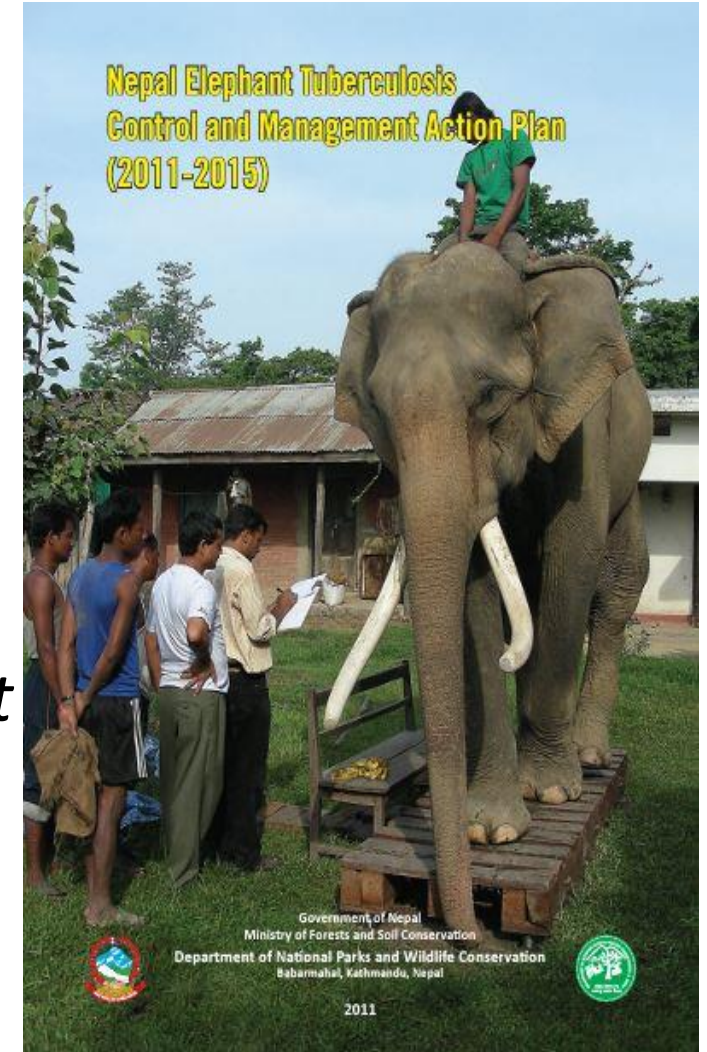
- Serology Test- Elephant TB Stat-Pak*, and **DPP® VetTB™ Assay**

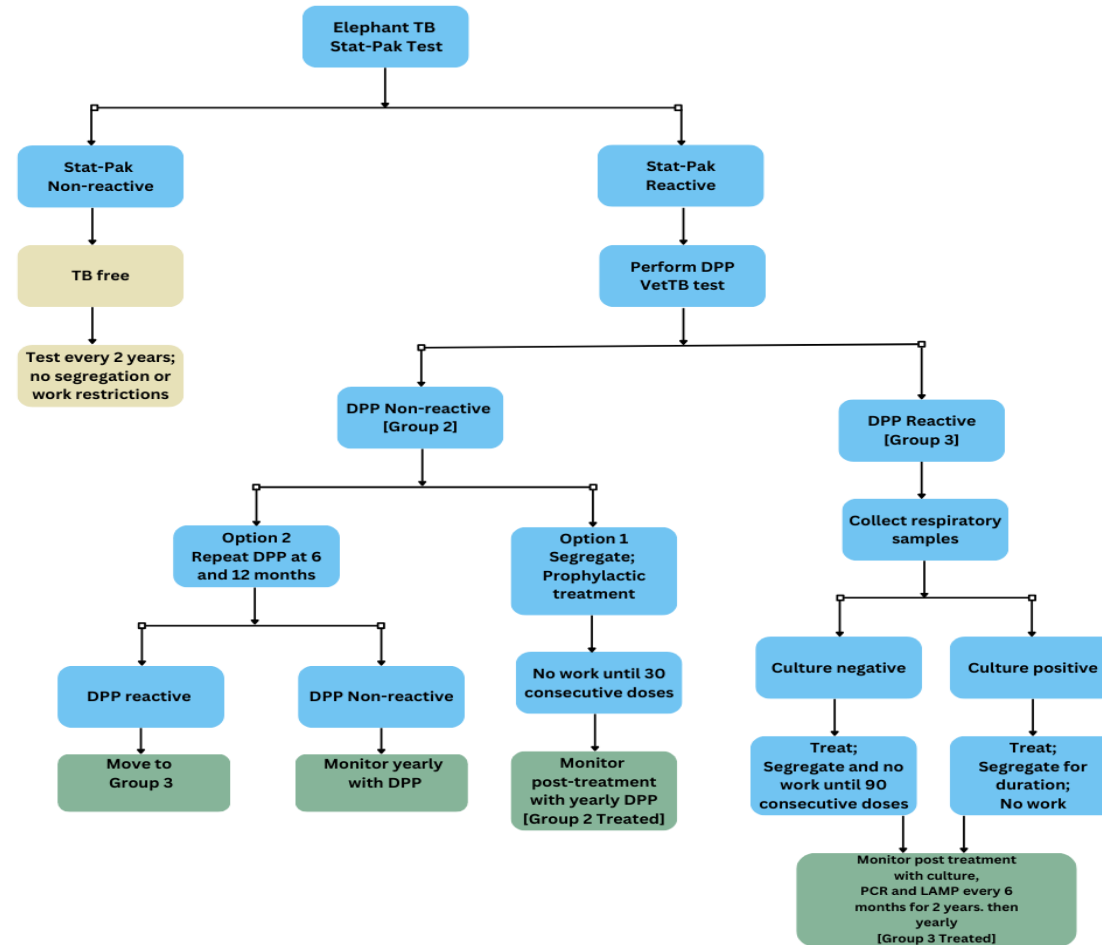


DPP® VetTB™ Assay
Licensed by USDA 2012



- *No specific control plan for Livestock*
 - *Surveillance ongoing (CVL and RVL)*
 - *ELISA*
- *Nepal Elephant Tuberculosis Control and Management (2011-2015) (www.ntnc.org.np)*







- *Disease Prevention and Control activities*
 - ☐ *No preparedness and control plan drafted yet*
 - ☐ *Herd Screening test at farmers level*
 - ☐ *Sensitization to animal health technicians*
 - ☐ *Consumer Awareness*



Constraints/Challenges

- ☐ Intersectoral collaboration for investigation and control
- ☐ Poor diagnostic infrastructures at provincial and municipal level
- ☐ Stamping out of reactive cattle is an issue (legal and socio-cultural issue)
- ☐ Diagnosis at all tiers of government
- ☐ Reporting of disease to higher authority (NAHIS)



World Organisation
for Animal Health

Founded in 1924

Thank you!

Regional Representation for Asia and the Pacific
Food Science Building 5F - The University of Tokyo
1-1-1 Yayoi, Bunkyo-ku
Tokyo, 113-8657
JAPAN

rr.asia-pacific@woah.org
rr-asia.woah.org

[Facebook](#)
[Twitter](#)
[Instagram](#)
[LinkedIn](#)
[YouTube](#)
[Flickr](#)

