

Country Report on Disease Situation and Laboratory Works Nepal

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Introduction

- **Land locked** Country.
- Situated between **China and India**.
- Total Human Population of Nepal: **26.49 Million** (National Census 2011)
- **66%** of the population engaged in agriculture
- Livestock is an integral part of **complex farming system** (livelihood, food security, nutrition, Agri. operation, soil fertility, transport etc.).

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- Total Livestock Population of Nepal: **69.36 Million** (2011/2012)
- Contribution of Livestock: **31% of ADGP** and about **13% to GDP**
- It is envisaged that contribution of Livestock sector in ADGP will reach from 31 to **45% by end of 2015.**

Livestock Population Status

S.No	Species	Population in Millions (2011/2012)
1	Cattle	7.24
2	Buffalo	5.13
3	Sheep	0.81
4	Goat	9.51
5	Pigs	1.13
6	Fowl	45.17
7	Ducks	0.37
	Total	69.36

Production Status

S.No.	Category	Production in million metric tons (2010-2011)
1	Total Milk Production	15.57
	Cow Milk	4.47
	Buffalo Milk	11.10
2	Total Meat Production	2.78

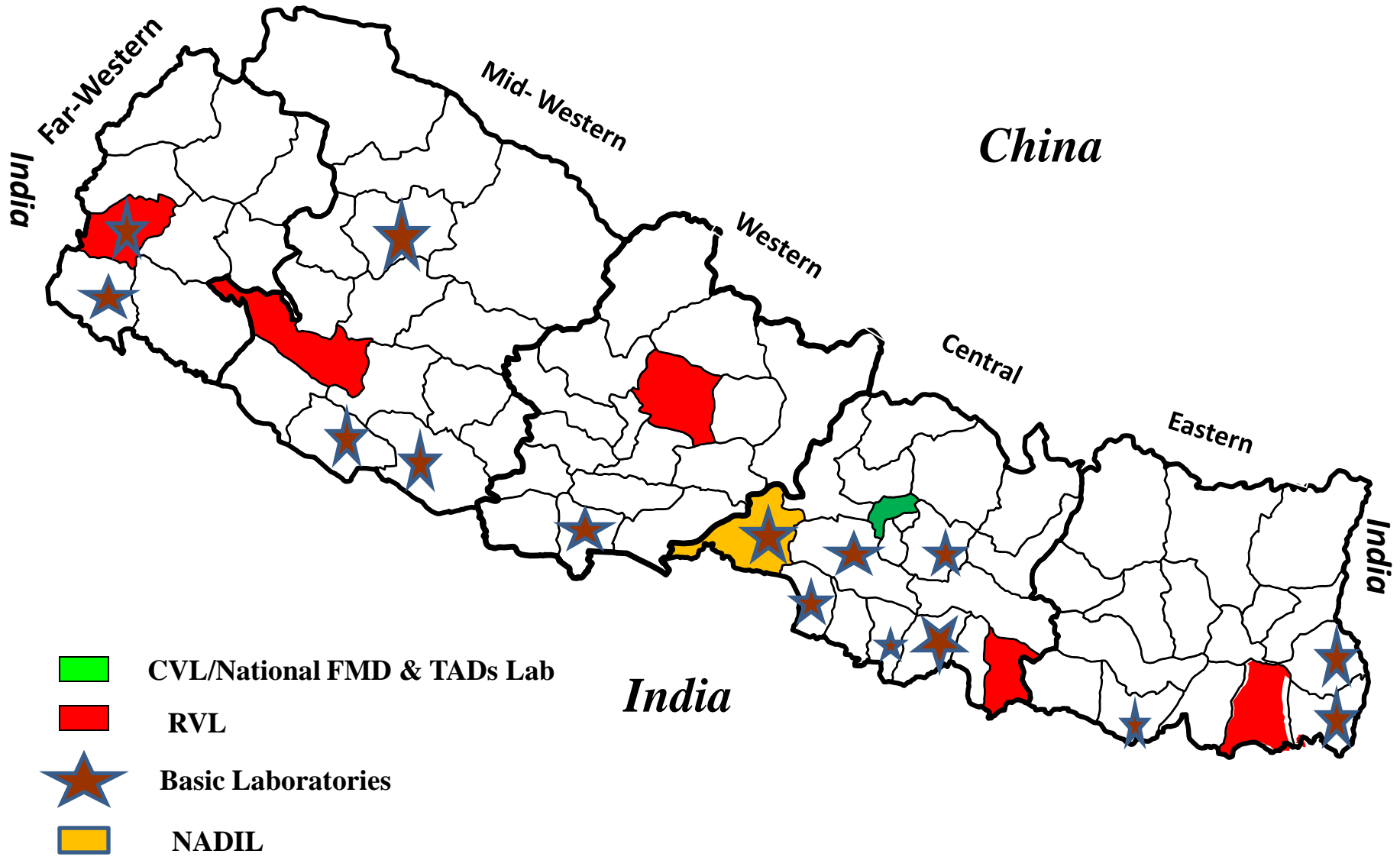
Laboratory Organization



Veterinary laboratories in Nepal

Central Veterinary Laboratory (CVL)	-1
Regional Veterinary Laboratory (RVL)	-5
National FMD and TADs Laboratory	-1
National Avian Investigation Laboratory	-1
Basic Laboratory in District livestock Services Office	-15
– Eastern Region (3)	
– Central Region (6)	
– Western Region (1)	
– Mid Western Region (3)	
– Far Western Region (2)	

Veterinary laboratories in Nepal



Diagnostic Facilities for Brucellosis

Available Diagnostic Tools:

- CVL / RVLs - RBPT and indirect ELISA for the detection of *Brucella* antibody.
- Basic Lab - RBPT

Brucellosis Situation

- Pyakural and Mishra (1977) studied sero-epidemiological evidence of animal brucellosis in different geographical areas. The prevalence rates were as follows
 - ✓ Buffaloes - 22.64%
 - ✓ Cattle - 17.47%
- Joshi (1983) studied the sero-epidemiological prevalence of brucellosis in human and animal in Kathmandu valley. The incidence rates were as follows
 - ✓ Human - 6.08% (87/1430)
 - ✓ cattle and buffalo - 8.7% (93/1069)
 - ✓ sheep and goat - 3.64% (9/247)

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- Jha *et al* reported the sero-prevalence rate of brucellosis in **1993** in different animals
 - ✓ **Cattle - 1.28%**
 - ✓ **Buffaloes - 1.93%**
 - ✓ **Goats - 3.7%** (eastern region of Nepal)
- Pradhan (**1996**) reported that out of 91 dairy cows examined, **3.3 %** sera samples were positive for Brucella antibody in Chitwan district of Nepal.

Contd...

- Pyakural et al., (1997) reported that the incidence of disease was observed in
 - Water buffaloes - 22.64%
 - Cattle - 17.4%
 - Sheep - 1.54%
- Joshi (2000) conducted epidemiological surveillance of human and animal brucellosis in milk collection area of DDC. 4.5% (25 out of 558) goat and 4.5% (25 out of 558) human sera showed to be sero-positive.

Contd....

- Aryal (2007) studied sero-prevalence of **human brucellosis** in Kathmandu. Out of 1006 sera samples examined by Brewer's Diagnostic Card, 120 samples showed up positive reaction with the **prevalence of 11.93%**.

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- During **2003-2013**, CVL tested the serum of cattle, buffalo and goat suspected for Brucellosis through RBPT. Out of **5057 samples, only 75 samples (1.48%)** were found to be positive.
- Likewise, till date CVL tested **1425** sero surveillance serum samples of different species of livestock through indirect ELISA, only **5 (0.35%)** samples was found positive. Testing process of Other samples are ongoing.

Surveillance/Control program

- Since 1977, the prevalence of Brucellosis has been reported high in Human and animals but it has **received attention recently**.
- **Surveillance of brucellosis** was started under ZCP from **2013**.
- **No any specific control programs** for brucellosis designed yet.
- **No legislation for slaughtering** of *Brucella* positive animals.

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- **Religious factor:** slaughtering of cattle is not allowed in Hinduism (about **80%** of Nepalese population practice Hinduism)
- However buffaloes, sheep, goats and pigs usually go for slaughter if found positive.
- Suspected animals are tested for Brucellosis in CVL and RVLs.
- **Vaccination against brucellosis has not been practiced so far in Nepal.**

Test results from the PT reagent

S.NO.	Sample Number	Results (Rose Bengal Test)
1	19	Positive
2	297	Positive
3	1104	Positive
4	200	Positive
5	982	Negative
6	881	Negative
7	728	Positive
8	1470	Negative
9	432	Positive
10	594	Positive
11	379	Positive
12	1032	Positive
13	1517	Negative
14	1378	Positive
15	1213	Positive
16	664	Positive
17	1618	Positive

Country plan/policy for regional collaboration on diagnosis and control of *B. melitensis*

- At present, there is no country plan or policy to control and prevent the disease.
- There is need of regional collaboration and co-operation.

**Thank You for your
kind attention**

