Brucellosis Situation in Bangladesh

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Bangladesh at a glance

Location: In south Asia bordering with India and Myanmar

Area: 147570 sq. km

Climate: Subtropical with long Monsoon

Population: 164 million
Veterinary Services focusing on Zoonosis

- Most of the animals are indigenous & reared in backyard level and rest of them are reared in farm level.
- Veterinary Services are provided at Upazilla level, District and CVH (Central Veterinary Hospital).
- Veterinarians visit farms at field level for monitoring and surveillance activities of zoonosis & VPH (Veterinary Public Health) section doing same with lab test.
- Collect sample from field level and send it to the prescribed laboratories for proper diagnosis & report it to the authority.
- Build up public awareness through extensional works.
## Livestock Population (Million)

<table>
<thead>
<tr>
<th>SL No</th>
<th>Type of Livestock</th>
<th>Population (in million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cattle</td>
<td>23.4</td>
</tr>
<tr>
<td>2</td>
<td>Buffalo</td>
<td>1.5</td>
</tr>
<tr>
<td>3</td>
<td>Goat</td>
<td>25.2</td>
</tr>
<tr>
<td>4</td>
<td>Sheep</td>
<td>3.1</td>
</tr>
<tr>
<td>5</td>
<td>Poultry &amp; Duck</td>
<td>296.3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>349.5</strong></td>
</tr>
</tbody>
</table>

Source: DLS, 2014
Bangladesh has one of the highest cattle densities: 145 large ruminants/km$^2$

The common cattle breeds are indigenous and their crosses with Holstein Friesian and Sahiwal.
Brucellosis situation in Bangladesh

- Brucellosis was first identified in cattle in 1967
- Sero-prevalence of brucellosis as 4.5% - 8.11% in cattle
- Cattle aged over 5 years - prevalence is higher (9.60%) and aged below 5 years - prevalence is lower (3.01%).
Surveillance of Brucellosis

- Veterinarians at upazilla, district and central level including VPH section visit dairy farms & Bull stations to collect samples for Lab. Diagnosis.
- Monthly submission of disease report to Epidemiology Unit (Passive surveillance).
- Disease Information also taken from Artificial Insemination Center of District level.
- Other institute as BLRI, BAU, CVASU, Icddrb also perform Surveillance activity.
Recently, a web-based software, namely Livestock Disease Information System (LDIS), has been developed with the support from FAO ECTAD for reporting livestock diseases in Bangladesh, which will enable tracking field cases of all diseases on a daily basis at least at Upazilla level.
Currently the surveillance system is running within dairy farms and Bull Station to collect blood on random basis.
## Brucellosis diagnosis in Livestock in Bangladesh

<table>
<thead>
<tr>
<th>SI No</th>
<th>Laboratories</th>
<th>Tests performed</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Veterinary public Health and Microbiology, DLS</td>
<td>Rose Bengal test (RBT)</td>
<td>Sero-surveillance and Screening</td>
</tr>
<tr>
<td>2.</td>
<td>Central Disease Investigation Laboratory, DLS</td>
<td>Isolation and identification of organism, RBT, ELISA and PCR.</td>
<td>Case diagnosis</td>
</tr>
<tr>
<td>3.</td>
<td>Field Disease Investigation Laboratory, DLS</td>
<td>RBT</td>
<td>Case diagnosis</td>
</tr>
<tr>
<td>4.</td>
<td>Faculty of Veterinary Science, BAU &amp; CVASU</td>
<td>Milk Ring test, RBT</td>
<td>Academic Research</td>
</tr>
<tr>
<td>5.</td>
<td>Bangladesh Livestock Research Institute (BLRI)</td>
<td>RBT, ELISA and PCR</td>
<td>Sero-surveillance</td>
</tr>
</tbody>
</table>
Diagnosis Capacity

- In VPH section only RBT is available.
- In other labs, ELISA, Milk Ring test, and PCR are performed at limited level.
Control measures of brucellosis in Bangladesh

- Testing and culling of reactor bulls
- Positive reaction for two subsequent abortion removed from herd
- Build up public awareness about the danger and control of Brucellosis.
- Build up the linkage between research and field level.
- Development of Hygienic skillness among the farmers to prevent the spread of disease.
Challenges

- Lack of awareness regarding zoonosis among people.
- Unorganized Surveillance Programme.
- Lack of suitably trained Individuals at all levels.
- Lack of VPH infrastructure & Lab facilities.
- Inadequate linkage between research and field level.
- Financial constraints.
Conclusion

- Strengthen collaboration and cooperation among OIE member countries on brucellosis & other zoonotic diseases diagnosis to adopt appropriate control measures.
- Share epidemiological data in the region
- Ensure capacity building of Laboratories for brucellosis diagnosis and research.
Thank you