



Timor-Leste

Brucellosis Reduction Using Co-Design Elements (BRUCE-TL)

Municipal Workshop

28th May 2024

This report summarises the discussions at the BRUCE-TL Municipal workshop held at Red Cross Maliana, Timor-Leste on 28th May 2024.



The BRUCE-TL work is co-funded by the Australian Centre for International Agricultural Research (ACIAR) and the International Development Research Centre (IDRC).



Background

The (Brucellosis Reduction Using Codesign Elements – Timor Leste) BRUCE-TL program is implemented by Menzies School of Health Research in collaboration with Ministry of Health (MoH) and Ministry of Agriculture, Livestock, Fisheries and Forestry (MALFF) and funded by IDRC and ACIAR. It aims to identify risk factors for bovine brucellosis transmission and facilitate implementation of evidence-based brucellosis control measures in Timor-Leste using a participatory and One Health approach.

Brucellosis is an important neglected zoonotic disease that affects both humans and animals. In humans, the disease especially affects those in high-risk occupations such as farmers, with the most significant complications being stillbirth and pregnancy loss. In livestock, especially cattle, brucellosis is a trade barrier and a key constraint for production through reduced reproductive performance which negatively affects farmers income and livelihoods.

The Municipal Workshop aimed to provide a platform for stakeholders from the municipal and village level to discuss brucellosis management in cattle and humans based on BRUCE-TL Activity 1 findings (i.e. seroprevalence and risk factors for brucellosis in cattle and humans); and to promote One Health collaboration on brucellosis. This included discussing operational challenges associated with brucellosis management. The workshop started at 9:30am and discussions continued till 4:00pm.

Activities

Activities conducted during the Municipal workshop on BRUCE TL were as follows:

1. **Opening remarks** by Menzies (Dr Shawn Ting, Senior Research Fellow), Director of District Health Services (Mr Gil Bernardo Vincente), representative of Director of MALFF Bobonaro (Mr Eugenio Borges) and representative of Presidente Autoridade Municipio (Director Engracia Soares)
2. **Presentations**
 - Dr. Joanita Jong (Brucellosis in cattle)
 - Dr. Felipe de Neri Machado (Brucellosis in human)
 - Dr. Merlinda Freitas and Dr. Maria Mantilo (BRUCE TL Activity 1 results)
3. **Discussion** on brucellosis and BRUCE TL Activity 2

The Municipal workshop was attended by:

- Menzies School of Health Research (Menzies)
- Instituto Nacional de Saude Publica de Timor-Leste (INSPTL)
- National Directorate of Veterinary (NDV), and representative of Sua Ex. Secretary of State of Livestock, Ministry of Agriculture Livestock, Fisheries and Forestry (MALFF)
- Bobonaro Municipal Authority
- Bobonaro Municipal Agriculture Services
- Bobonaro Municipal Health Services
- Bobonaro Department of Non-Governmental Organization (NGO)
- Local authorities from Suco Odomau, Suco Lahomea, Suco Holsa and Suco Tapo Memo.

Opening Remarks



Dr. Shawn Ting (Project Lead/Senior Research Fellow, BRUCE TL, Menzies School of Health Research) welcomed everyone to the municipal workshop on brucellosis in cattle and humans. He expressed gratitude to the collaboration, especially from the community for their participation in the BRUCE-TL study. He was excited that study findings could be shared less than 1 year after the launch. He encouraged good discussion during the workshop based on the study findings, and highlighted the strong participation from both the human health and animal health sector at the meeting.



Mr. Gil Bernado Vicente (Director, District Health Services, Bobonaro) highlighted that the BRUCE-TL workshop was held at the national level last week, but only a few from the municipality were able to attend. Hence, he expressed gratitude to Menzies for the workshop in Maliana which allows local authorities to understand and discuss the study findings. He was grateful for Menzies doing the research that demonstrated the presence of this disease in cattle and humans. He highlighted that MALFF and MoH need to work together to address this issue and discuss the response to research findings, together with local authorities and partners. He highlighted that the research could be expanded since it only focused on four villages.



Mr. Eugenio Borges (Representative of Director of MALFF Bobonaro; Chief of Livestock and Veterinary Department) highlighted the benefits of having a municipal workshop which allows the chief of village, hamlet leader, and all the veterinary technicians to be included in understanding and discussing the study findings. He highlighted that this is the first time that brucellosis exposure has been detected in humans, although it has been known that it is present in cattle. He expressed strong appreciation to Menzies for the initiative to do research on brucellosis in cattle and humans. He encouraged everyone to listen attentively to the presentation and share the information widely in the community.



Director Engracia Soares (Representative of President Authority Municipal; Director of NGO and ORCOM) said that a national workshop on brucellosis was held last Thursday, and it was positive that it could continue with a workshop in the municipality. She highlighted that the research implemented by Menzies has support from the Australia Government. She highlighted that brucellosis has a disproportionate impact on women, with the most significant complications occurring in pregnant women. She also highlighted that the disease affects female cattle causing abortion and reproduction issues. She thanked Menzies for implementing the project in Bobonaro municipality. She highlighted that the project is limited to four villages in Maliana Administrative Post and hoped it could be extended to all areas in Bobonaro municipality as there are cattle farmers throughout the municipality.

Presentations



Dr Joanita Jong (National Director of Veterinary, MALFF) presented on brucellosis in animals, with a focus on brucellosis in cattle. It was highlighted that brucellosis was a barrier to international trade and among the top five animal diseases for priority action in Timor-Leste. A 2023 serological survey in border municipalities by MALFF including over 1000 cattle in 98 sucos (villages) found that brucella seroprevalence was around 48%. Transmission pathways for brucellosis spread between cattle were explained, and it was highlighted that there was no effective treatment for cattle after infection. Disease control options for brucellosis in cattle include (1) public education on good hygiene and animal management practices, (2) vaccination and (3) ongoing surveillance, and (4) slaughter of cattle with poor reproduction. Brucellosis vaccination using Strain19 is planned in four villages in Maliana Administrative Post for female calves between 3 to 6 months old in 2024. Vaccinated cattle need to be identified via ear tag or ear notching.



Dr Felipe de Neri Machado (National Director of Public Health, INSPTL) presented on brucellosis in humans, focusing on the epidemiology. It was highlighted that symptoms for brucellosis were non-specific, with many other differential diagnosis such as tuberculosis, HIV and malaria. Laboratory diagnosis is difficult in humans. Prevention strategies against brucellosis were presented which includes (1) wearing gloves when handling aborted/birth material (2) avoiding consumption of aborted material (3) avoiding raw milk consumption and (4) covering wounds. Treatment for brucellosis is possible with humans but should be based on a doctor's diagnosis.



Dr Merlinde Freitas (Veterinarian, Menzies) and Dr Maria Mantilo (Doctor, Menzies) presented on the BRUCE-TL Activity 1 findings. It showed that cattle herds exposed to brucellosis are more likely to have abortions, providing evidence that reducing brucellosis can benefit the community through less abortions.

Key findings:

- 36.5% of households own at least 1 cattle exposed to brucellosis.
- 7.2% of households with cattle have at least 1 person exposed to brucellosis.
- Important risk factors for brucellosis in cattle/cattle herds were (1) old cattle (2) female cattle (3) free-roaming cattle (4) larger cattle herds and (5) improper disposal of placenta.
- Important risk factors for brucellosis in humans were (1) years spent cattle farming and (2) handling/eating aborted material.
- There was limited knowledge of brucellosis among cattle farmers.

Suggested strategies to reduce brucellosis in cattle based on Activity 1 findings were (1) safe disposal of aborted material (2) removal of old cattle with poor reproduction (3) reduction of free-roaming cattle and (4) brucellosis vaccination focusing on female cattle and larger herds.

Suggested strategies to reduce brucellosis spread to humans based on Activity 1 findings were (1) wearing gloves when handling aborted/birth material and (2) avoiding consumption of aborted/birth material.

These strategies will be discussed with cattle farmers in Activity 2 of the BRUCE-TL project, which involves working with the community to co-design ways to address brucellosis in cattle and humans.

Key discussion points



Socialisation on brucellosis

- Participants placed a large emphasis on implementing brucellosis socialisation.
- Cultural leaders should be included for socialization on brucellosis due to their influence over sociocultural activities that involves cattle.
- MoH and MALFF will work together on the socialization material. It is important to have representatives from human and animal health involved in the preparation of material and during implementation in the field. Socialization should aim to improve awareness on brucellosis and try to change any poor attitudes and risky practices. There should also be repetition.
- Socialization should be done through multiple ways. Tools for socialization could include short films, community radio broadcast, brochures, and posters.
 - Short films could be used to demonstrate the need to wear proper protective equipment when handling aborted and birth material, how to dispose it, and proper cooking methods.
 - Brochures and posters should have simple messages and could be placed in village/hamlet meeting areas.
- Village, church, and cultural events could be a platform to share information about brucellosis. The team who attends these events should have representatives from human and animal health.
- It should be every participant's responsibility to share knowledge with their family and community about this disease.
- One suggested key message to farmers was: "Replace older cattle which are not productive with younger cattle and vaccinate young cattle to protect them from brucellosis."
- After socialization activities, telephone numbers of veterinary technicians should be provided to cattle farmers so that they can contact technicians for further advice. This

includes management of abortions in cattle, which involves disposing of aborted material and placenta.

Brucellosis vaccination for cattle

- Municipal veterinary and livestock technicians highlighted that socialization on brucellosis is crucial before starting the vaccination campaign. It will improve awareness among cattle farmers and hence participation in brucellosis vaccination.
- Local authorities recommended that cattle chutes should be constructed before a vaccination campaign. NDV mentioned that construction of cattle chutes can be done by the government initially but taken over by the community at a later stage.
- Local authorities recommended that hamlet leaders should be informed (by MALFF via a letter) on the time of the vaccination campaign so that the community could be encouraged to keep their cattle in the yard for vaccination.
- NDV highlighted that it is important to build trust with the community which would improve participation in the vaccination program.
- NDV committed to implementing brucellosis vaccination in selected areas in Maliana Administrative Post in 2024 or 2025.
- Possible time periods for brucellosis vaccination depends on (1) cattle management (2) farmer availability and (3) weather. As such, the possible times include:
 - July, August and September - Farmers have more time to help as there is less agriculture activity. However, cattle are free roaming.
 - February, March and April - Cattle are tethered or yarded which make them easier to access. However, farmers are busy with rice farming and the rainy weather means the ground might be muddy and slippery.
- Local authorities asked about brucellosis vaccination in other animal species. NDV clarified that the vaccination will start with cattle as the priority.

Identification of vaccinated cattle

- There were concerns with ear tagging as they often fall off a short period after vaccination. Use of quality ear tags was mentioned.
- Ear notching was accepted as a possible option.

Movement of cattle

- Municipal veterinary and livestock technicians mentioned that free movement of cattle between Indonesia and Timor-Leste can contribute to disease spread.
- Local authorities mentioned that free movement of cattle between municipalities for cultural activities can also contribute to disease spread. NDV highlighted that Decree Law of Livestock number 12 allows movement restriction of animals between areas, but implementation is difficult.

Removal of cattle with poor reproduction

- It is preferable if cattle with poor reproduction are sold directly for slaughter. There are plans to build a cattle slaughterhouse in Maliana in the future which will be accompanied by training of veterinary technicians in antemortem and postmortem inspection.

- The government will not have resources to compensate farmers for slaughtering cattle with poor reproduction.
- Every year MALFF has to plan to distribute cattle to farmers who submit a proposal. One of the ideas is to remove cattle with poor reproduction as a criteria for the government to provide them with new cattle that are tested free from brucellosis.

Removal of aborted material

- Municipal veterinary and livestock technicians said that burial of aborted material by farmers was feasible, especially if they understood the risk through socialisation activities.

Consumption of aborted material

- To overcome consumption of aborted material, it should be explained that this practice could have a negative impact on human health.
- Aborted materials should be properly cooked if farmers persisted in the practice to consume it.

Others

- Municipal veterinary and livestock technicians said that separation of cattle (such as old and young cattle) is not feasible for farmers to implement due to free roaming.
- Municipal veterinary and livestock technicians said that wearing of gloves/plastic by farmers when handling risky materials is possible to implement.

Closing speech

Design Elements

1



Mr. Gil Bernardo Vicente (Director of District Health Services, Bobonaro) was grateful to Menzies for carrying out these activities and presenting the result from the research back to the community. He expressed hope that research findings will inform good planning and motivate progress on responding to the disease. He encouraged continued cooperation with Menzies to further the work on brucellosis, based on the discussion that has happened. He encouraged everyone to do what is possible, and if not leave it to the future. He closed the meeting on behalf of the Municipal Authority.

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