

ANNEX I. STRUCTURED QUESTIONNAIRE FOR FARMERS AND DAIRY FARM WORKERS

Assessment of bovine tuberculosis (BTB), knowledge, practices, and associated risk factors

Study area: Shire Indaslassie and surrounding areas

Respondent code: _____ **Date:** _____ **Interviewer code:** _____

Instructions: Please interview the respondent privately. Tick (✓) one response unless multiple responses are explicitly permitted. Record responses verbatim for open-ended questions. Do not record personal identifiers that are not required by the study protocol.

Section A. Respondent and Farm Characteristics

A1. Respondent role

☐ Farm owner ☐ Farm attendant/worker ☐ Other (specify): _____

A2. Respondent age (years)

A3. Sex

☐ Male ☐ Female ☐ Prefer not to say

A4. Educational attainment

☐ No formal education ☐ Basic reading/writing ☐ Primary (Grades 1–6) ☐ Junior secondary (Grades 7–8) ☐ Secondary (Grades 9–12) ☐ Diploma ☐ Degree or above

A5. Farm location

Woreda: _____ PA/Kebele: _____

A6. Years since farm establishment

☐ 1–5 ☐ 6–10 ☐ >10

A7. Production system

☐ Intensive ☐ Semi-intensive ☐ Extensive

A8. Herd size

☐ ≤5 ☐ 6–10 ☐ >10 cattle

A9. Predominant cattle breed

☐ Local ☐ Crossbred ☐ Exotic ☐ Mixed

A10. Number of cattle by sex

Males: _____ Females: _____

A11. Primary purpose of the farm

☐ Home consumption ☐ Market production ☐ Both home consumption and market production

Section B. Housing, Hygiene, and Herd Management

B1. How are cattle housed?

☐ Open area ☐ Separate animal house ☐ Enclosure ☐ Shared house with humans ☐ Other: _____

B2. Does the farm have a dedicated cattle house?

☐ Yes ☐ No

B3. If yes, main wall/house construction material

☐ Wood ☐ Grass/thatch ☐ Brick/block ☐ Metal sheet ☐ Other: _____ ☐ Not applicable

B4. Main floor material

☐ Concrete ☐ Soil ☐ Sand ☐ Stone ☐ Other: _____

B5. Ventilation of the cattle house

☐ Poor ☐ Moderate ☐ Good

B6. Overall hygiene condition of the cattle house

☐ Poor ☐ Moderate ☐ Good

B7. Are feeding and watering troughs provided?

☐ Yes ☐ No

B8. Are cattle ever mixed with cattle from other farms?

☐ Yes ☐ No

B9. What is usually done when a new animal is purchased?

☐ Isolated before introduction ☐ Introduced immediately ☐ Health checked by veterinarian ☐ Other: _____

B10. Are sick animals isolated from the rest of the herd?

☐ Always ☐ Sometimes ☐ Never

B11. Are sick animals treated when they become ill?

☐ Always ☐ Sometimes ☐ Never

B12. If sick animals are not treated, what is the main reason?

☐ Lack of awareness ☐ Lack of veterinary service ☐ Veterinary clinic too far ☐ Cost ☐ Other: _____ ☐ Not applicable

B13. Are dairy cattle mixed with other domestic animal species?

☐ Yes ☐ No

B14. Is there contact between the herd and wildlife?

☐ Yes ☐ No ☐ Do not know

B15. If yes, which wildlife species are commonly encountered?

Section C. Knowledge and Awareness of Bovine Tuberculosis

C1. Have you heard of bovine tuberculosis (BTB)?

☐ Yes ☐ No

C2. Can BTB affect cattle?

☐ Yes ☐ No ☐ Do not know

C3. Can BTB be transmitted between cattle and humans?

☐ Yes ☐ No ☐ Do not know

C4. Which are possible routes of transmission of bovine TB to humans? (Select all that apply)

☐ Drinking raw/undercooked milk or milk products ☐ Eating raw/undercooked meat ☐ Inhalation/aerosols ☐ Direct contact with infected animals/tissues ☐ Other: _____ ☐ Do not know

C5. Which signs may occur in cattle with BTB? (Select all that apply)

☐ Progressive weight loss/emaciation ☐ Persistent cough ☐ Fever ☐ Enlarged lymph nodes ☐ Lethargy ☐ Reduced milk production ☐ Other: _____ ☐ Do not know

C6. Can BTB reduce dairy productivity?

☐ Yes ☐ No ☐ Do not know

C7. If yes, which effects may occur? (Select all that apply)

☐ Reduced milk yield ☐ Infertility/reproductive failure ☐ Increased calving interval ☐ Abortion ☐ Other: _____ ☐ Not applicable

C8. Which age group do you think is most affected by BTB?

☐ <6 months ☐ 6–12 months ☐ 1–2 years ☐ 2–3 years ☐ >3 years ☐ Do not know

C9. Which sex do you think is more affected?

☐ Male ☐ Female ☐ Both equally ☐ Do not know

C10. Which cattle type do you think is more affected?

☐ Local ☐ Crossbred ☐ Exotic ☐ All equally ☐ Do not know

C11. Have you ever heard of vaccination against bovine tuberculosis?

☐ Yes ☐ No ☐ Do not know

Section D. Milk and Meat Consumption Practices

D1. How is milk usually consumed in your household?

☐ Raw ☐ Boiled/heated ☐ Sometimes raw and sometimes boiled/heated

D2. Do you usually boil/heat milk before consumption?

☐ Yes ☐ No ☐ Sometimes

D3. If yes, what is the main reason for boiling/heating milk?

☐ To prevent milk-borne diseases ☐ Cultural/traditional practice ☐ Taste/preference ☐ Other: _____

D4. Do you know that BTB can be transmitted to humans through consumption of milk/milk products from infected cattle?

☐ Yes ☐ No ☐ Do not know

D5. How is meat usually consumed in your household?

☐ Well cooked ☐ Raw/undercooked ☐ Both

D6. Do you know that tuberculosis may be transmitted through consumption of meat from infected cattle?

☐ Yes ☐ No ☐ Do not know

D7. Do you consume yoghurt or other traditionally fermented milk products?

☐ Yes ☐ No

D8. Do you consume animal blood?

☐ Never ☐ Cooked ☐ Raw/uncooked ☐ Both cooked and raw

Section E. Human–Animal Contact and Household TB History

E1. Does anyone in your household share living space with cattle?

☐ Yes ☐ No

E2. If yes, who shares the living space?

☐ Entire household ☐ Farm worker(s) ☐ Other: _____ ☐ Not applicable

E3. Has anyone in your household or among farm workers ever been diagnosed with tuberculosis?

☐ Yes ☐ No ☐ Do not know

E4. If yes, what type of TB was diagnosed?

☐ Pulmonary ☐ Extrapulmonary ☐ Do not know ☐ Not applicable

E5. How many people were affected?

_____ ☐ Not applicable

E6. Has the respondent or a household/farm worker had prolonged contact with a person diagnosed with TB?

☐ Yes ☐ No ☐ Do not know

Section F. Milk Marketing and Farm Practices

F1. Does the farm sell milk or milk products?

☐ Yes ☐ No

F2. If yes, who are the main customers? (Select all that apply)

☐ Local households ☐ Milk collection unit ☐ Restaurant/cafeteria ☐ Other: _____ ☐ Not applicable

F3. If milk is not sold, what is the main use?

☐ Household consumption ☐ Feeding calves ☐ Discarded ☐ Other: _____ ☐ Not applicable

F4. Does the herd share watering points with animals from other farms?

☐ Yes ☐ No ☐ Do not know

Section G. Experience with BTB and Preventive Practices

G1. Have you ever observed an animal suspected of having BTB in your herd?

☐ Yes ☐ No ☐ Do not know

G2. If yes, what signs or findings led to suspicion? (Select all that apply)

☐ Chronic cough ☐ Weight loss/emaciation ☐ Reduced milk yield ☐ Enlarged lymph nodes ☐ Reproductive problems ☐ Lesions identified after slaughter ☐ Other: _____ ☐ Not applicable

G3. Has any animal from your herd ever been tested for BTB?

☐ Yes ☐ No ☐ Do not know

G4. If yes, what was the test outcome?

☐ Positive/reactor ☐ Negative/non-reactor ☐ Do not know ☐ Not applicable

G5. Have you ever received veterinary advice about prevention or control of BTB?

☐ Yes ☐ No

G6. What measures do you think can help prevent BTB? (Select all that apply)

☐ Testing cattle ☐ Isolating suspected/sick animals ☐ Avoiding raw milk ☐ Proper cooking of meat ☐ Improving housing ventilation/hygiene ☐ Veterinary inspection ☐ Other: _____ ☐ Do not know

Section H. Open-Ended Questions

H1. What do you consider the main causes or risk factors for BTB in your area?

H2. What challenges prevent farmers from controlling or preventing BTB?

H3. What additional comments or recommendations do you have regarding BTB prevention and control?

Interviewer Verification

I1. Interview completed

☐ Yes ☐ No

I2. Any important observation or clarification

Interviewer name/code: _____ Signature: _____ Date: _____