



Livestock Research Institute (LRI) Consultant Scope of Work

Job Title:	Technical Assistance for Lumpy Skin Disease (LSD) Vaccine Production
Project Name:	Feed the Future Bangladesh Livestock and Nutrition Activity
Level of Effort	28 days (two trips)
Location:	Mohakhali, Dhaka, Bangladesh
Anticipated Dates:	(June – December 2024)
Supervisor:	Muhammad Nurul Amin Siddiquee / Rebekah Arnold
CV Submission:	nsiddiquee@acdivocalpin.org ; lanhq@acdivoca.org

Background:

The Feed the Future Bangladesh Livestock and Nutrition Activity (“the Activity”) aims to sustainably increase livestock productivity, marketability, and consumption of livestock products to enhance household nutrition and income in the Feed the Future zone of influence (ZOI) and zone of resilience (ZOR). The five-year (September 2021 to September 2026) Activity consists of three key components: livestock productivity, marketability of livestock products at the national and subnational levels, and household consumption of safe and diversified livestock products. These components have a crosscutting focus on access to finance, adoption of information and communication technology (ICT), as well as gender, youth, and social inclusion (GYSI). During the life of the Activity (LOA), it targets one million cattle (both beef and dairy) along with goats and other small ruminant-owning households across the ZOI and ZOR.

Summary

Livestock Research Institute (LRI) is the livestock vaccine manufacturer and distributor under the Department of Livestock Services (DLS) in Bangladesh. LRI has initiated the first Lumpy skin disease (LSD) vaccine production initiative in the country. A few private sectors have also been communicating with the DLS to import LSD vaccine in limited amounts from different countries. This consultancy is designed to support LRI in producing the LSD vaccine at their production facility. At this stage, LRI is seeking technical assistance from the FtF Livestock and Nutrition Activity to develop a quality vaccine and make it available to farmers. LRI has a logistic facility to develop the vaccine, but they need technical assistance to ensure quality assurance in LSD vaccine manufacturing.

Responsibilities

The Consultant’s responsibilities include, but are not limited to, the following:

- Provide technical assistance (training) to LRI scientists to develop the LSD vaccine in their laboratory.
- Develop an international standard manual, including methodology, on vaccine production stages and activities covering from media preparation to vaccine dose preparation and

vaccine quality control through which LRI scientists can easily understand the process of vaccine production and quality control mechanism as an international standard.

- Provide training to LRI technical scientists on the virus isolation to LSD vaccine dose preparation steps, including media preparation and checking of contamination, Revival of Vero cell, cell culture and cell preservation (maintaining cell line), Virus inoculation, virus fluid harvesting, Seed lot management system (Master seed, working seed preparation and storage), Determination and formulation of vaccine dosage (TCID50, PCR), Vaccine lyophilization, Determination of expiry date of vaccine, Quality control of LSD vaccine (sterility, safety, toxicity)
- Assist LRI scientists with quality vaccine production systems for any emerging livestock diseases, including LSD.
- Share a technical manual covering steps of LSD and other similar vaccine production and quality control, which will follow the international standard vaccine production procedures.
- Share recommendations for LRI to improve the vaccine production system.

Tasks

1st slot: June 2024

Prior to Departure:

Day 1	Remote calls or meetings with LRI to introduce assigned staff, understand the assignment and develop the trip plan.
Day 2 - 6	Review existing international standard manuals and guidelines to cover the following topics for the training of LRI staff and assemble modules and guidelines to develop the draft manual for the training- <ol style="list-style-type: none"> 1. Growth media preparation and checking of contamination. 2. Revival of Vero cell, cell culture and cell preservation (maintaining cell line) 3. Virus inoculation, virus fluid harvesting 4. Seed lot management system (Master seed, working seed preparation and storage) 5. Determination and formulation of vaccine dosage (TCID50, PCR) 6. Vaccine lyophilization 7. Determination of the expiry date of the vaccine 8. Quality control of LSD vaccine (sterility, safety, toxicity)

In-country (Prior vaccine preparation)

Day 7	Meet with LAN Staff for introduction and assignment briefing; visit LRI staff, laboratories and logistics; meeting with LRI scientists to design training schedule work plan and determine upcoming major tasks and share the plan with the LAN office and LRI focal point.
Day 8 - 17	Training to LRI relevant staff to cover the following training topics: <ol style="list-style-type: none"> 1. Growth media preparation and checking of contamination.

	<ol style="list-style-type: none"> 2. Revival of Vero cell, cell culture and cell preservation (maintaining cell line) 3. Virus inoculation, virus fluid harvesting 4. Seed lot management system (Master seed, working seed preparation and storage) 5. Determination and formulation of vaccine dosage (TCID50, PCR) 6. Vaccine lyophilization 7. Determination of the expiry date of the vaccine 8. Quality control of LSD vaccine (sterility, safety, toxicity)
--	--

2nd Slot: July-August 2024

Prior to Departure

Day 18 - 19	According to practical observation, finalize the draft outline of the manual and guide for LRI staff, and develop the stepwise workflow chart to follow by LRI staff during the vaccine preparation process.
-------------	--

In-Country

Day 20-21	Review the workshop with LRI on the entire process of vaccine development and the correlation between manual and vaccine production steps to follow in future activities on vaccine production. Handover the manual, guideline, and workflow step chart.
Day 22-26	Practical demonstration and hands-on training of specific LSD vaccine production-related staff during the ongoing LSD vaccine production process by LRI.
Day 27	Submission of final manual, guideline, and workflow step of LSD vaccine production.

Post return:

Day 28	Task completion report preparation and other official activity for closing the assignment.
--------	--

Key Deliverables:

- Development of LSD vaccine production and quality control manuals, guidelines for LSD vaccine production and step-by-step workflow
- Report(s) on technical training for LRI scientists
- Write final report including a numbered list of recommendations to be adopted by the host organization, to be submitted on the last day of the assignment

Remote (before and after travel); LRI Headquarters, Mohakhali, Dhaka, Bangladesh. Travel outside of Dhaka is not envisioned for this consultancy.

Duration, LOE and Period of Performance

ACDI/VOCA will issue a short-term contract for 28 days, June to December 2024. The estimated LOE within the two-month period is 21 days. The actual LOE may be less than 21 days. If more LOE is needed the contract will be modified to include more LOE based upon discussions with the project team.

Supervisors

The consultant will report to the LAN COP and the Project Director for contractual matters. All day-to-day reporting will be overseen by Imran Hasan with general supervision by the Chief of Party. No variations are to be made to the agreed scope of work, time, or cost without the written approval of ACDI/VOCA.

Qualifications and Competencies

- International experience in laboratory activity, especially LSD vaccine production in a similar capacity.
- Proven record on virus growth media preparation and checking of contamination, Vero cell culture and preservation, Virus inoculation and fluid harvesting, seed lot management, vaccine dose formulation and quality control.
- Having experience in training session facilitation to technical experts.
- Excellent critical thinking skills and judgment. Proven willingness to make timely and sound decisions.
- Excellent oral communication skills. Ability to communicate effectively with persons on all levels inside and outside the company.
- Master's degree or equivalent in microbiology or other related field, PhD preferred.