



To express interest in this assignment please email priyanka.subba@crs.org

**CRS Farmer to Farmer Program
Volunteer Assignment Scope of Work (SOW)**

Some assignment details are subject to change

Summary Information	
Assignment Code	ML204
Country	Mali
Country Project	Zoonotic diseases
Host Organization	Central Veterinary Laboratory (LCV)
Type of Volunteer Assistance	Organizational development
Type of Value Chain Activity	Input Support Services
Assignment Title	Providing the Central Veterinary Laboratory with an efficient Asset Management System to improve laboratory equipment maintenance and repair.
Assignment preferred dates	June 9th to June 28th 219
Objectives of the assignment	<p>The goal of the assignment is to develop an Annual PM (Preventative Maintenance) and Repair Program including defined SOP's with a properly evaluated Asset Management Plan.</p> <p>The structure of the assignment should:</p> <ul style="list-style-type: none"> - Reduce repair and operating costs over the lifetime of equipment - Increase equipment operating efficiency and lifespan - Provide the institution with a comprehensive inventory of basic equipment in all laboratory services - Increase user biosafety procedures and technical awareness of regularly used equipment, through development of a proper laboratory equipment training program
Desired volunteer skill/expertise	<ul style="list-style-type: none"> • Laboratory Equipment Technician, qualification (DVM) or equivalent with strong background in the Equipment Maintenance, Repair, and Calibration • Strong knowledge in biomedical devices metrology • At least ten (10) years of work experience in a veterinary diagnostic laboratory setting • Strong exposure and experience in the implementation of ISO / IEC 17025 • Proven knowledge of Biosafety & Biosecurity and Good Laboratory

	Practice (GLP) principles <ul style="list-style-type: none"> • Experience in laboratory coaching or in staff mentoring would be an asset • Language proficiency: Basic French speaking is an added value
PERSUAP Qualification	Type III

A. BACKGROUND

Veterinary laboratory services are a core component of animal health and of public health more broadly, given their essential role in the identification and mitigation of the spread of zoonotic diseases. CRS/Mali's three-year Keneya Kelen (*One Health*) project aims to increase Mali's ability to quickly and accurately detect zoonotic diseases through a strengthened animal health surveillance and disease identification network at all levels. Specifically, the project aims to: (i) Strengthen the human and material capacities of health actors in the areas of zoonotic disease diagnosis, specimen collection and transport and passive surveillance of livestock diseases; (ii) Develop innovative approaches to strengthen the links between the human health and animal health sectors, thus reinforcing the "One Health" approach in Mali. The Central Veterinary Laboratory is one of the main implementing partners of Keneya Kelen project, particularly for Intermediate Result 1, which focuses on improving the laboratory diagnosis of priority zoonotic diseases in animal populations.

National Veterinary Laboratories are responsible for reducing threats from zoonotic originating from animal and develop the ability to provide accurate and rapid diagnostics needed to ensure that important infectious diseases are detected early and that outbreaks are reported to the national veterinary services quickly. Technical capacity and expertise are integral to effective functioning of National Veterinary Laboratories and form a basis for sound science-based decision making. Compliance with international standards for diagnostic testing and quality assurance will provide greater confidence in the results of diagnostic tests. Proper interpretation of test results and quality assurance are technically demanding tasks requiring the necessary expertise. If incorrect results (false positive or false negative) are reported the costs in terms of resources and lost credibility can be huge.

Mali's national laboratory system health sector faces serious constraints which contribute to its "limited capacity" rating (1/5) on Joint External Evaluation (JEE) measures for D.1.4 Laboratories Quality System which are designed to assess country-level progress towards meeting WHO International Health Regulations (IHR) standards. Recommendation from this assessment: develop and implement a laboratory equipment maintenance plan and a national quality assurance program for laboratories in different sectors.

Mali veterinary services rely upon a single veterinary laboratory, the Central Veterinary Laboratory (LCV) in Bamako, as the only institution capable of providing tests for animal diseases, thus reinforcing the Central Veterinary Laboratory of Bamako to fulfill its mandate mainly in providing diagnostic confirmatory, proficiency tests, and act as a central reference laboratory for zoonosis is a key recommendation issue following the last Joint External Evaluation (J.E.E.) mission in Mali .

B. ISSUE DESCRIPTION

The Central Veterinary Laboratory (L.C.V) is a Public Institution (EPA) with a commercial mission through the production and marketing of vaccines and a public service mission through the diagnosis of animal diseases, the

detection of zoonoses, research in animal health, quality control of animal products, drinking water and beverages, pesticide residues in foodstuffs, animal and vegetable tissues, soils and waters.

A modern veterinary laboratory requires substantial and adequate engineering maintenance and support. It is expected that LCV initiate corrective and preventive maintenance as well as basics metrology and calibration programmes. As a reference and to maintain quality assurance, it is estimated that renewal of laboratory equipment should occur on average every ten years (10% per year), calibration and metrology costs are estimated at approximately 10% of the equipment value per year. It is possible to outsource many of these maintenance requirements, but in many cases an in-house capability may better serve the need. Most laboratories have site-specific needs and requirements that are best met with a reasonable complement of engineering and trade skills on site, with staff who are familiar with local needs and issues. Laboratory management should regularly review how best to supply these support services.

Mali unique reference veterinary laboratory currently faces persistent challenges associated with sustaining laboratory equipment maintenance, repair and calibration mainly due to unavailability of needed expertise in the whole West African region. The LCV management is committed to the quality approach within its establishment. A quality manual has been developed for several years now. The scope of the accreditation was for the determination of the pesticides Chlorpyrifos ethyl and Deltamethrin in green beans and mangos. This accreditation could not be realized because of metrology. To restart the accreditation process, in 2018, an assessment was made by the IAEA to identify weaknesses in the existing system in order to address them. One of the main recommendations issues were the reinforcement of human resources capacities in basic metrology. The proposed areas of accreditation were: Rose Bengal test for brucellosis, Elisa for Mycoplasmosis and Immunofluorescence for rabies. In this context, any contribution to the introduction of basic metrology capacity at the CVL may contribute favorably to push forward this accreditation process.

C. OBJECTIVES OF THE ASSIGNMENT

The goal of the assignment is to provide technical assistance to the Central Veterinary Laboratory (CVL) to develop an Annual Preventative Maintenance and Repair Program including defined SOP's with a properly evaluated Asset Management Plan. The structure of the assignment should be built around key specific areas of improvements in laboratory asset management to achieve the followings:

- Reducing repair and operating costs over the lifetime of equipment
- Increasing equipment operating efficiency and lifespan
- Providing the CVL with a comprehensive inventory of basic equipment in all laboratory services
- Enhancing user biosafety procedures and technical awareness of regularly used equipment, through development of a proper laboratory equipment maintenance and repair training program

The overall objective of the assignment, which is part I of an anticipated **two-part support to the CVL will provide to CVL laboratory personal with equipment management capacity as well as a comprehensive equipment maintenance strategy that would advance CLV expertise in future accreditation process. Strong laboratory

personal commitment is expected to assure sustained implementation of the assignment for the CVL in gaining depth ability for standardization of equipment, regulation of its procurement, disposal, and replacement.

After review of current laboratory equipment condition, the volunteer will work with laboratory staff to make an inventory of the needs for first line maintenance, make a planning for the first line maintenance, follow up with the good functioning of major equipment to develop annual preventative maintenance and repair program including defined SOP's with a properly evaluated asset management plan. These SOPS shall specify the basic administrative controls, engineering controls, standard operating procedures and personal protection required to establish an Annual PM (Preventative Maintenance) and Repair Program

The volunteer will work on the following specific tasks:

- Reduce repair and operating costs over the lifetime of the equipment
- Increase equipment operating efficiency and lifespan
- Provide the institution with a comprehensive inventory of basic equipment in all laboratory services
- Provide accurate experimental data and increase laboratory efficiency
- Increase user biosafety procedures and technical awareness of regularly used equipment, through development of a proper laboratory equipment training program

** (Note that a second follow-on assignment will provide continue support with in depth elaboration of guidelines in strengthening of capacity for day-to-day laboratory equipment maintenance; development and revision of site-specific maintenance strategies and protocols to continually strengthen capacity for proactive and autonomous maintenance.)

D. HOST CONTRIBUTION

- The host, CVL, will ensure the commute from the volunteer's hotel to the work site. CVL will also provide stationery and printing of documents relating to work, as well as three meals per day.
- The host will select and mobilize staff to be trained and will avail key personnel to work closely with the volunteer. CRS F2F Mali will organize the volunteer's lodging in the guesthouse in Bamako (if needed).

E. ANTICIPATED RESULTS FROM THE ASSIGNMENT

This volunteer assignment will provide technical assistance to Central Veterinary Laboratory to develop an efficient Asset Management System to improve laboratory equipment maintenance and repair. This will in turn would advance CLV expertise in future accreditation process.

Through the assignment, it is expected that:

- All key laboratory personnel capacity strengthened in developing and applying first line maintenance skills required to keep the veterinary laboratory equipment functional;

validation.

- Experience in laboratory technician coaching or in staff mentoring would be an asset
- Language proficiency: Basic French speaking is an added value

I. ACCOMMODATION AND ANOTHER IN-COUNTRY LOGISTICS

- In Bamako, comfortable and safe CRS guesthouse accommodation will be provided;
- Assignment will be in Bamako capital city, in the West of Mali. (see map [here](#));
- Transportation to and from the airport, to and from the CRS Bamako office will be provided by CRS vehicles;
- Commute to work site will be ensured by CVL;
- Volunteers will be provided with a phone to keep in contact with CRS and a HP Laptop if necessary.

J. RECOMMENDED ASSIGNMENT PREPARATIONS

1. Training Materials

Power Point presentations will be needed for any training modules. Reference documents may be printed in advance, although sharing of electronic versions of documents with participants is encouraged. All logistical material will be available onsite or can be brought from the CRS Bamako office (flip chart paper, markers, etc).

2. Working Environment

- Almost all the volunteer's work will occur on the premises of the Central Veterinary Laboratory. Electricity and all necessary commodities are available in the laboratory.
- The volunteer will collaborate directly with the laboratory personnel. All personnel have background knowledge and experience in laboratory equipment management for measurement and diagnostic purpose but will appreciate support in inventory of the needs for first line maintenance, planning for the first line maintenance
follow up the good functioning of major equipment.

3. Recommended Reading

- ❖ *Le Manuel Qualité du Laboratoire Central Vétérinaire ;*
- ❖ *Le Manuel de procédures administrative, comptable et financière du LCV ;*
- ❖ *Textes de création du Laboratoire Central Vétérinaire de Bamako ;*
- ❖ *Documents projet accréditation (AIEA)*

4. Weather Appropriate Clothing

It is very hot in Bamako from March to June averaging in the upper 35 degrees Celsius (upper 90s Fahrenheit). Lightweight, loose cotton clothing will be most appropriate. Shorts are not typically worn in professional settings in Mali.

K. KEY CONTACTS

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