

Farmer to Farmer Nepal

NE211

SOW development in progress

Organization requesting support: CIMMYT

A. **Assignment preferred dates:** August – September 2019

B. **Background of the Organization/Project**

The United States Agency for International Development in Nepal (USAID Nepal) supported Nepal Seed and Fertilizer (NSAF) project is being implemented by International Maize and Wheat Improvement Center (CIMMYT). NSAF contributes to Feed the Future’s goal of sustainably reducing global poverty and hunger by aligning with the Feed the Future Nepal multi-year strategy (2011–2017) and USAID’s Country Development Cooperation Strategy for Nepal (2014–2019).

The project aims to strengthen the country’s seed and fertilizer systems by:

- enhancing the capacity and role of public, private and community sectors in the seed and fertilizer value chains through the provision of technical and business development services;
- improving private sector access to inbred lines and research knowledge from national and international research institutions; and
- enhancing public-private partnerships and coordination by establishing a tripartite research forum and a seed and fertilizer information system at the national level.

C. **Issue Description**

NSAF works with Nepal Agriculture Research Council (NARC) soil division and the **Soil and Fertilizer Testing Laboratory/Section** to develop new **soil fertility management recommendations** that are efficient, scalable and suited for different types of farmers. A key activity under this project is to provide **practical instruction in advanced laboratory-based soil analysis**. NARC through the NSAF project has acquired the **multi-purpose Infrared spectrometer for use as a rapid and non-destructive method to determine soil nutrient content for quick and tactical decisions**. However, there is limited capacity among the project partners and crucially within NARC to fully utilize and provide the necessary preventive care. A hands-on soil Infrared spectroscopy training course is needed to enhance the capacity of scientists and technicians in the use of infrared spectroscopy for soil and plant analysis. Additionally, the laboratories need to be equipped with digital tools and software to upload the data generated from spectroscopy into servers and maintain database.

SN	Problem	What is causing the problem	How does it affect the organization/commodity
1	Limited knowledge on NIR/MIR soil scanning	1. Few scientists trained 2. High staff turnover	<ul style="list-style-type: none">• This affects the speed at which the project deliverables can be realized as well as the sustainability of equipment use with NARC.

Farmer to Farmer Nepal

			<ul style="list-style-type: none"> The chemical analysis of soils is expensive and therefore costs can be reduced if the scanner is fully utilized.
2	Absence of simple NIR/MIR guidelines in local language	1. Operating procedures have not been translated to local language	<ul style="list-style-type: none"> Limits the wider applicability of the methodology

D. Anticipated Results from the Assignment

- A large number of Nepali soil scientists are trained on the use of the NIR/MIR machine
- A locally adapted protocol for NIR/MIR developed
- Life-span of NIR/MIR machine enhanced and quality of scanning increased
- A large number of soil samples can be scanned within short periods

E. Desired Volunteer Skills and preferred candidate and contact if any

- Soil scientist with extensive experience in NIR/MIR spectroscopy,
- Good grip of data analytics and modelling
- Good communication skills especially to non-scientists
- Good appreciation of GIS