



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

CRS Farmer to Farmer Program

Volunteer Assignment Scope of Work

Summary Information	
Assignment Code	NE223
Country	Nepal
Country Project	Crops Country Project
Host Organization	Mush Nepal Pvt. Ltd
Assignment Title	Mushroom Spawn Production Laboratory Strengthening
Assignment preferred dates	Nov- Dec 2020
Objectives of the assignment	To strengthen knowledge of mushroom spawn production laboratory techniques and technology to laboratory staffs.
Desired volunteer skill/expertise	Mycologist with experience on Mushroom seed production
Type of Volunteer Assistance	Technology Transfer = T
Type of Value Chain Activity	Information and Input Support Services (S) on Mushroom Seed Production
PERSUAP Classification	PERSUAP Type II

A. BACKGROUND

Nepal is predominantly depending upon agriculture for their livelihood. The agriculture is traditional; subsistence based producing mostly food security crop and very less amount of high value cash crop. Nepal Government emphasize poverty alleviation and economic growth through agriculture especially promoting the geographically suitable high value commodity crops. Climatic condition of the country varies from tropical in Terai region via alpine in Hills to Himalayan regions. Due to this rich diversity, the potential for mushroom production is immense can cultivated across the country.

Mush Nepal is one of the leading private company supplying quality spawan produced in its own laboratories. It was established in 2015 in Balambu, Chandragi Municipality, ward no.12 Kathamndu, Nepal. The aim of the company is to supply Nepali farmers with mushroom spawns on an industrial scale. The company had invested three million dollars to build its infrastructure. The company has more than 200 clients all over Nepal. Since its establishment, it has produced mushroom seed. The company is committed to enhance capacity of existing mushroom growers and training new mushroom growers.

The company has expanded its mushroom farm to nearby district Makwanpur. The company is cultivating mushrooms like sitake and oysters. In its farms pink oyster mushroom is also cultivated. The company is growing mushroom in new kind of dome and is planning to automatize the farm.

B. ISSUE DESCRIPTION

Many of the small holders engaged in the crops sub sector are shifting towards modern farming methods but are struggling with access to knowledge and techniques prerequisite to increase production and productivity. Furthermore, disease and pests, poor farm management practices, lack of efficient water use practices, limited knowledge on maintaining quality of produced seed, limited knowledge on soil nutrition management, limited access to farm mechanization technologies and limited access to farm extension services are aggravating low productivity. Mushroom is also facing the above stated challenges. Despite all the challenges, mushroom farming is gaining momentum among smallholders and urban farmers. The quality of mushroom spawn has been a challenge for mushroom growers and even for the companies, quality assurance of mushroom spawn is a big challenge.

Mushroom cultivation is relatively new in Nepalese context. However, Nepalese farmers have been consuming wild mushrooms. Nepal agriculture research center is a prime wing of government to disseminate knowledge on mushroom production. Considering the business opportunities, private sector emerged in mushroom. The entrepreneurs emerged from the existing mushroom growers. These companies are investing in modern mushroom labs and Mush Nepal Pvt. Ltd is one of the laboratory.

The laboratory is well established and running with good business size. The company is producing mother culture but developing mother culture and transferring it into master culture for commercial seed production is facing contamination. In some cases, these laboratories had to destroy whole batch of production. The seed produced through the company is facing 20-30% seed and substrates loss which is count 100-200 k.g per batch. The company is producing commercial spawn in wheat and in liquid media. The self-life of spawn seed in liquid is more than in wheat media. In this context, the Company is looking for advance scientific skills on Mushroom laboratory production techniques and skilled manpower for quality control is a challenge. In addition, Company yet needs to understand Good manufacture practices (GMP) proper handling of existing equipment and the need for additional equipment to produce quality seed.

C. OBJECTIVES OF THE ASSIGNMENT

Mushroom seed development technology will be provided to laboratory technicians of company. The specific objective of this volunteer assignment is to provide training on quality mushroom seed production. The general objective will be:

- Introduce and demonstrate handful techniques to produce quality mushroom seed by identify source of contamination and methods of contamination.
- Improve mushroom seed production guideline/protocol for local technicians.
- Enhance laboratory capacity to sell quality mushroom.

D. HOST CONTRIBUTION

The assignment will be conducted closely with the mushroom seed production laboratory of Mush Nepal. The host will also arrange training for their laboratory staffs. Host will also provide the volunteer with office space, training hall and daily tea/snacks for participants.

E. ANTICIPATED RESULTS (Outcome/impact) FROM THE ASSIGNMENT

It is anticipated that this volunteer assignment will contribute to quality mushroom seed production to company will directly contribute to the following;

- Company laboratory will adopt the improved mushroom seed production techniques
- Company will adopt the improved cultivation techniques
- Increased uniform incomes of all round the year
- Outreach events conducted upon return to the US

F. DELIVERABLES

The anticipated deliverables accomplished by the volunteer also include:

- One simple mushroom seed production guideline/protocol for the local technicians will be developed
- Appropriate and relevant technologies on mushroom cultivation will be transferred
- Host recommendations action plan developed
- Trip Report should be submitted before exit meeting

G. SCHEDULE OF VOLUNTEER ACTIVITIES IN COUNTRY (DRAFT)

Day	Activity
Days 1	Arrival Nepal, Tribhuvan International Airport. The volunteer will be picked by Greenwich Hotel with a placard bearing “ CRS logo and volunteer name ”.
Day 2	Introduction and meeting with CRS management and briefing meeting (Security, general orientation, logistic, reporting formats, etc.) at CRS office. Discuss anticipated outcomes and work plan.
Day 3	Travel to assignment site. Introduction and assignment briefing with host representatives
Days 4 – 15	Complete assignment related activities at the host location
Day 16	Report revision, submission,
Day 17	Debriefing including CRS country Office and USAID Local mission and fly back to USA

H. DESIRABLE VOLUNTEERS SKILLS

The volunteer will have the following qualifications and competencies:

- Mycologist with experience on Mushroom seed production

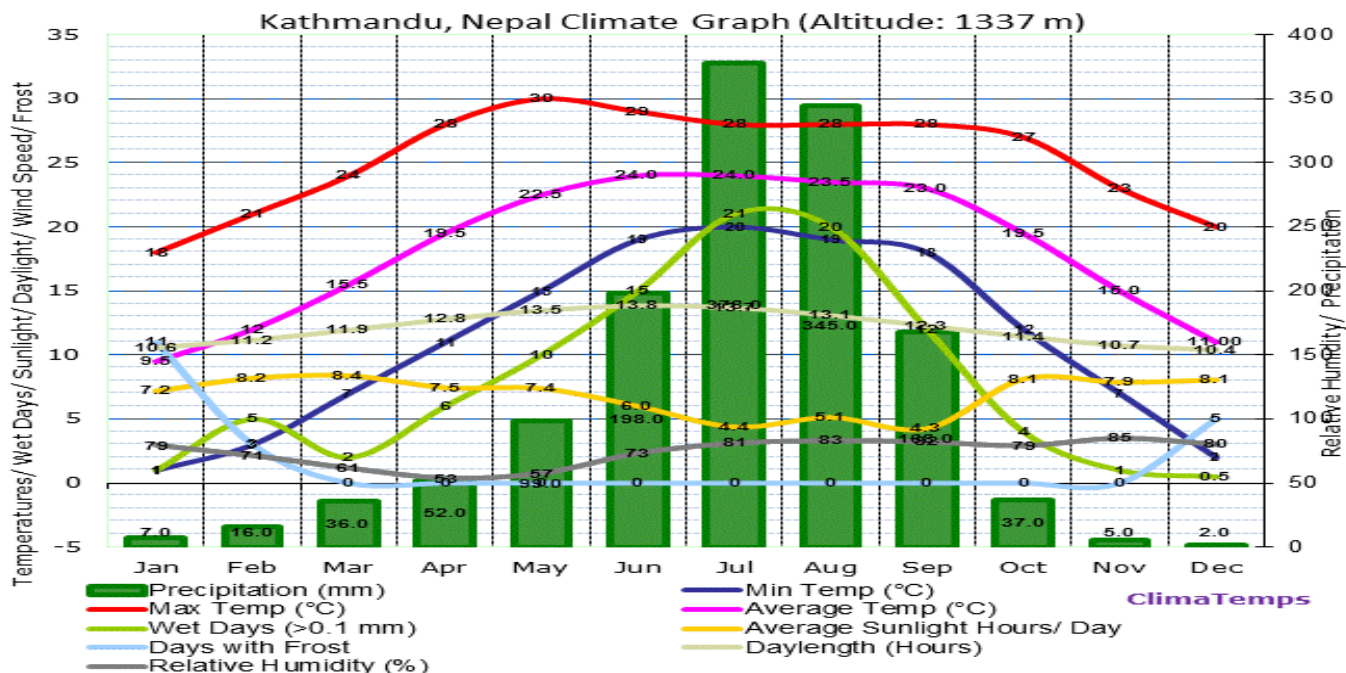
- Oyster mushroom seed and mushroom production techniques

I. ACCOMMODATION AND OTHER IN-COUNTRY LOGISTICS

- Before travelling to the assignment place, the volunteer will stay in Kathmandu at one of the CRS's client hotels, Hotel Kutumba <https://www.orbitz.com/Lalitpur-Hotels-Hotel-Kutumba.h33780567.Hotel-Information> or another hotel that will be booked and confirmed before the arrival date. In Kathmandu, the hotel usually has rooms that include services such as airport pickup and drop-off, breakfast, wireless internet, etc. The hotel or CRS will arrange a vehicle for short travel from the hotel to CRS and vice versa while in Kathmandu.
- All required materials will be prepared ahead of time and will be provided to the volunteer. CRS Nepal will provide the volunteer with a laptop computer (if s/he needs), and mobile phone with charged local SIM-card. Any other required logistics and facilities can also be requested by the volunteer during her/his stay in Kathmandu. CRS will provide a vehicle and accompany the volunteer to the place of assignment.
- During the assignment period, the volunteer will be booked in a hotel at the project site, to be confirmed prior to volunteer arrival. CRS Nepal will arrange hotel accommodation and cover the lodging bills against receipts. CRS HQ will provide the volunteer with a per-diem advance to cater meals and incidences.
- Security information will be provided by CRS Nepal Security focal person at Kathmandu CRS Country office.

J. RECOMMENDED ASSIGNMENT PREPARATIONS

- Prior to travel, the volunteer is advised to prepare necessary training and demonstration aids and written handouts. Electronic copies of these handouts and any other printed materials can be printed for immediate use at the CRS office in Kathmandu on request by the volunteer.
- If the volunteer requires use of simple training aids like flip charts, markers or tape s/he should make the request and collect from the CRS office in Kathmandu prior to travel to the assignment place.
- Translation of handouts to the local language can be done at the assignment location if required.
- Depending on the meeting places and availability of electric power and LCD projector, the volunteer may use a laptop and projector for power point presentations.
- Weather Appropriate Clothing: <https://www.accuweather.com/en/np/nepal-weather>



K. KEY CONTACTS

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<p>Host Organization:</p>	

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