**To express interest in this assignment please email first name. Priyanka.subba@crs.org**

**CRS Farmer to Farmer Program**

**Volunteer Assignment Scope of Work**

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| **Summary Information** | | |
| **Assignment Code** | | **NE238** |
| Country | Nepal | |
| Country Project | Crops Country Project | |
| Host Organization | Nepal Plant Disease and Agro Associates (NPDA) | |
| Assignment Title | Identification and use of *Trichoderma* species | |
| Assignment preferred dates | May-June 2020 | |
| Objectives of the assignment | To teach techniques for identification of *Trichoderma*  To teach techniques for better mass culturing of *Trichoderma* for field application  To teach methods for effective use of *Trichoderma* in the field | |
| Desired volunteer skill/expertise | *Trichoderma* expert   * Skill in identification of some major *Trichoderma* species useful as biocontrol agent * Skill in teaching of better techniques for culturing and mass multiplication of *Trichoderma* * Skill in teaching methods for effective use of *Trichoderma* in the field for GAP | |
| Type of Volunteer Assistance | Technology Transfer | |
| Type of Value Chain Activity | Research – Testing – Validation – Delivery | |
| PERSUAP Classification[[1]](#footnote-1) | Type II | |

1. **BACKGROUND**

Agriculture in Nepal is transforming gradually from its subsistence level to commercialization. With this process and also because climate change a number of problems have become apparent to the country's agriculture sector. That includes introduction and emergence of new pest problems and thereby increased use of chemical pesticides. At the same time people, including the farming communities, have become aware of at least pesticide problems and their detrimental effects. However, they have no options other than using chemical pesticides. The Government of Nepal (GON) also has formulated national policy in favor of minimizing chemical pesticides through IPM practices and is promoting activities towards it.

NPDA is established to conduct research with farmers and farming communities together with government and academic institutions. In the last three years it has been deploying academia, researchers and graduates to conduct research on plant pathology. This includes coming up with IPM program implementation in conjuction with Government of Nepal, various projects and academic institutions.

1. **ISSUE DESCRIPTION**

Research and development work on biopesticides in the country at both the public and private sector is very limited and the use of biopesticides is very minimal. The amount of chemical pesticides imported and formulated in Nepal in 2017/18 was 631,529 kg active ingredient (a.i.) whereas the amount of biopesticides was only 867 kg a.i. (all imported). There is no data on biopesticides formulated in the country. The issue is that whatever and wherever the biopesticides are being used the users (farmers) do not know what they are using and whether they are effective or not. Moreover, Nepal is introducing foreign organisms in the name of biopesticides.

At the same time people, including the farming communities, have become aware of at least pesticide problems and their detrimental effects. However, they have no options other than using chemical pesticides. The Government of Nepal (GON) also has formulated national policy in favor of minimizing chemical pesticides through so called 'Organic Agriculture' and is promoting activities towards it. Use of biopesticides is one of the major activities farmers in NPDA working areas are interested.

NPDA has initiated a model project - Exploration of native *Trichoderma* for Good Agriculture Practices (ENT-GAP) in collaboration with a farmers' multipurpose cooperative, Dupcheswor Multipurpose Cooperatives, at Dhikure, Nuwakot. The project has been supported by Likhu Village Municipality. This is a project of its first kind in the country.

NPDA is looking to enhance its capacity in biological agents, a native trichoderma, to support farmers for feasible and cheaper options for farming. The cooperative farmers are expecting to learn identification of native beneficial Trichoderma to curb growing threats in their farm and soil.

1. **OBJECTIVES OF THE ASSIGNMENT**

The main objective of the assignment area:

* To teach techniques for identification of native *Trichoderma*
* To teach techniques for better mass culturing of *Trichoderma* for field application
* To teach methods for effective use of *Trichoderma* in the field

1. **HOST CONTRIBUTION**

NPDA will provide space and training aid during the volunteer assignment. It will assign a counterpart (senior scientist) to work together with the volunteer. It will coordinate participants during field visit and training.

1. **ANTICIPATED RESULTS FROM THE ASSIGNMENT**

* Train Nepalese farmers and scientists on identifying Trichoderma
* Develop manual to identify native Trichoderma

1. **DELIVERABLES**
2. Final report before departure
3. Group presentation with local stakeholders at the end of the assignment in country
4. Volunteer outreach activities in the US and in country
5. Training Manuals, strategic plans, business and marketing plans, curriculum developed
6. **SCHEDULE OF VOLUNTEER ACTIVITIES IN NEPAL**

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| **Days\* (not dates)** | **Activity** |
| 1 | Arrive in Kathamndu |
| 2 | Orientation in CRS and Introduction to NPDA – Facilities, going on activities, interaction, and actions |
| 3-4 | Examining *Trichoderma* cultures/isolates collected at NPDA and teaching identification techniques to NPDA scientists |
| 5 | Visit to Government facilities - Plant Pathology Division of Nepal Agricultural Research Council, Central Laboratory of Department of Agriculture |
| 6 | Demonstrating/teaching techniques for effective use of *Trichoderma* |
| 7-8 | Farmers' field visits and interaction with farmers at project site - Dupcheswor Multipurpose Cooperatives, Dhikure, Nuwakot |
| 9-10 | Demonstrating/teaching techniques for effective growing and mass multiplication of *Trichoderma* for field application |
| 11 | Final day at NPDA and exit meeting with host and CRS |
| 12 | Travel back to USA |

\*Weekend programs will be organized as per the interest of the volunteer.

1. **DESIRABLE VOLUNTEERS SKILLS**

* Pathologist
* Skills in identification of biological agents and Trichoderma
* University professor or scientist

1. **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 (http:// https://www.hotels.com/ho1081978144/hotel-kutumba-lalitpur-nepaIn 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), local internet dongle (modem/EVDO) 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. Wherever the hosts cannot contribute vehicle, CRS will provide transport services to volunteer.
* 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.

1. **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>

1. **KEY CONTACTS**

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| **CRS Baltimore, US** | **CRS Nepal Country Program** |
| Priyanka Subba  Volunteer Coordinator  EA Farmer to Farmer Program  228 W. Lexington Street  Baltimore, MD 21201  410-951-7366  Email: [priyanka.subba@crs.org](mailto:priyanka.subba@crs.org) | Phaindra Raj Pandey  Project Director, CRS F2F Nepal Country Office  Maitri Marg - Bakhundole, Lalitpur Metropolitan City Ward No.1, Province 3, Nepal  Cell: +977-98141205763, 9808028903  Email: [phaindra.pandey@crs.org](mailto:phaindra.pandey@crs.org) |
| **CRS Nepal Country Program** |
| Prachanda Kattel  Project Coordinator, CRS F2F Nepal Country Office  Maitri Marg - Bakhundole, Lalitpur Metropolitan City Ward No.1, Province 3, Nepal  Cell: +977-9841658430  Email: [prachanda.kattel@crs.org](mailto:prachanda.kattel@crs.org) | Chhan Bahadur Bhattachan  MEAL Coordinator  CRS F2F Nepal Country Office  Maitri Marg - Bakhundole, Lalitpur Metropolitan City Ward No.1, Province 3, Nepal  Cell: +977-9841390786  Email: [chhan.bhattachan@crs.org](mailto:chhan.bhattachan@crs.org) |
| **Host Organization:** |  |
| Hira Kaji Manandhar, PhD  Founder Executive Chairman  Nepal Plant Disease and Agro Associates (NPDA)  26 Shree Shantinagar Marg (behind Ganga Cinema Hall), Balaju-Chakrapath, Kathmandu, Nepal  Cell: (+977) 9849676781  E-mail: [hirakaji@gmail.com](mailto:hirakaji@gmail.com); [nepalpda@gmail.com](mailto:nepalpda@gmail.com) |  |

1. USAID precisely classifies PERSUAP in four categories; **PERSUAP Type I** assignments directly related to pesticides recommendations, **Type II** as assignments with indirectly related with pesticides, **Type III** assignments related to curriculum review and designing, business plan development and strategies development and **Type IV** as assignments associated with other USAID projects and collaborators. [↑](#footnote-ref-1)