

NCBA CLUSA Farmer-to-Farmer Program

Management of cacao genetic resources Scope of Work

[Insert Name of Volunteer]

Assignment Summary

This F2F assignment will be implemented in Vinces, Los Ríos in Ecuador. The goal of this assignment is to support the Productores de Cacao de Vinces who work in cacao in the management of cacao genetic resources. The following table provides an overview of the type of volunteer assistance for this specific assignment and Host Organization (HO).

1. General Assignment Information	
Assignment Location	Country: Ecuador Province: Los Ríos Canton: Vinces Parrish: Vinces
Host Organization (HO) Name	Productores de Cacao Vinces (PCV)
Assignment Theme	<input type="checkbox"/> Diversification <input checked="" type="checkbox"/> Climate Smart Agriculture (CSA) Practices Climate Smart Agriculture classification: If a volunteer assignment addresses CSA, please indicate which pillar is the best match: <input checked="" type="checkbox"/> Productivity (P) Sustainably increasing agricultural productivity and incomes; <input type="checkbox"/> Adaptation/Resilience (A) Adapting and building resilience to climate change; <input type="checkbox"/> Mitigation (M) Reducing and/or removing greenhouse gas emissions, where appropriate <input type="checkbox"/> Not applicable - (N) <input type="checkbox"/> Producer organization (PO)/Co-op Strengthening/Marketing <input type="checkbox"/> Gender, Youth and Social Inclusion (GYSI)
Type of assignment	<input checked="" type="checkbox"/> In-person <input type="checkbox"/> Paired remote ¹ <input type="checkbox"/> Flexible
Value Chain(s)	Cacao
Assignment Dates	October – November 2024
Assignment Length	2 weeks

¹ A paired remote assignment is where a U.S. remote volunteer is paired with non-U.S. local or national volunteer to complete an assignment.

Estimated Training Participants	[42] women, [18] men, [60] in total
Assignment Objective (s) -By the end of this assignment, training participants will:	
<ul style="list-style-type: none"> • Raise awareness of the importance of the “Nacional” cacao variety for its unique characteristics and commercial value. • Provide the functional and practical principles of genetic regeneration techniques that can be developed in the field. • Train in the identification and selection of superior plants. • Provide techniques for efficient clonal propagation. • Instruct in the use of rooting hormones and planting techniques. • Demonstrate grafting techniques and best practices for rootstock and sprouts selection. • Promote practices that ensure environmental and economic sustainability of cacao crops. 	
Assignment Deliverables - Any item that is produced as a result of carrying out the assignment.	
<ul style="list-style-type: none"> • Practical field guides with instructions on rooting practices, transplanting of cuttings, grafting protocols and handling of grafted plants, and plant health monitoring and quality control procedures. • Agricultural schedule with activities related to genetic regeneration. • Manual or guidance document based on what was learned during the assignment that can be used for genetic regeneration in cacao. • A Trip Report with SMART Recommendations that will help to improve the HO business. This report should be submitted to the Field and HQ staff prior to departure from in-country assignment. * • A Timesheet to report volunteer hours. * • An Expense Report, if needed, to be submitted within 48 hours of returning home. * • An outreach activity. <i>Upon return to the United States, the volunteer is asked to share his or her Farmer-to-Farmer Program experience with their community and networks. Outreach activities could include talks or presentations with business, philanthropy, religious, women’s or educator’s groups or during an NCBA CLUSA event or at the volunteer’s place of employment; writing a blog/article that is published in local media or other news source; etc. Volunteers can also tag the @f2fnbbaclusa program on Instagram. For an outreach activity, it is important to mention that the F2F program is financed by the US Agency for International Development (USAID). At least two outreach events are requested and should be communicated to the Assistant Program Manager, Adeline Tavares (atavarez@ncba.coop) and to the Program Recruiter, Shirley Gasparo (sgasparo@ncba.coop).</i> • *These templates are found in the F2F volunteer portal https://www.ncbaclusa-f2f.org/en. Information regarding this portal will be given to volunteers prior to the beginning of the assignment. Please notice that if at the end of the assignment, the volunteer leaves a guideline, a specific tool, a list of practices or a product, a power-point presentation, flipcharts, a survey, an assessment, a toolkit, etc. these should be delivered in a way it can be used by the trainees and its use should be also specified as part of the SMART recommendations given at the final closure meeting. Volunteers consent on the use of these materials and authorizes its reproduction by the HO. 	

2. Assignment Description – In this section include information about the assignment, the HO, the potential audience participating in volunteer's trainings, and current resources the HO provides.

- What is the issue/challenge that needs to be addressed with this assignment?

Most cacao production in Ecuador is from the CCN-51 and Nacional Fino de Aroma (Nacional) varieties. CCN-51 is known for its high productivity, making it a popular choice among Ecuadorian farmers, but less distinctive taste qualities. This type of cacao has significantly boosted cacao production in the country over the past decades (S&P Global, 2023). On the other hand, the Nacional variety of cacao is highly prized for its unique organoleptic characteristics, including floral and fruity flavors. This variety is valued in the high-end chocolate industry and is cultivated in smaller quantities due to its lower yield compared to CCN-51 (IDB, 2020; Springer, 2016). In summary, while CCN-51 dominates in terms of production volume due to its high productivity, Nacional remains a niche product highly valued for its superior quality (IDB, 2020; Springer, 2016).

Vinces is a city that serves as a national and historical reference in cacao production. The Productores de Cacao de Vinces (PCV) are suppliers to República del Cacao (RDC), a producer of fine chocolate who source only from producers growing the Nacional variety, which meets the quality and organoleptic requirements for its products. The Nacional holds an historic importance to the PCV producers because it serves as the foundation for their livelihoods. However, these crops' productivity is declining characterized by pests and diseases, lack of crop management, cultural practices and maintenance of the crop, and the impact of the effects from climate change.

RDC established an experimental center and cacao collection center in Vinces to serve as demonstrative location to showcase agricultural alternatives and technologies to promote self-sufficient, responsible, and sustainable cacao farms. This is especially important as farmers have noticed throughout the years that climate change, the intermittent rains and their need to adapt to this situation is every year more evident. Carlos Zambrano, a technician from RDC who works closely with the PCV, states that crops of the Nacional variety grown by producers in the area are highly productive if they are properly managed. For example, a crop grown without proper management has a productivity of 0.3 ton/ha/year in contrast to a properly managed farm that has a productivity of 1 ton/ha/year. The value of applying good practices and techniques is evident.

Some of the management practices that PCV may implement for higher productivity and that could be taught by the expert volunteer are:

- Selection of productive plants.
- Elimination of the aerial part of unproductive plants.
- Maintenance pruning.
- Planting plants with symbiotic characteristics.

- What are the HO expectations that will be fulfilled at the end of this assignment?

With the development of this training, it is expected that producers will understand the historical importance, production, and characteristics that the Nacional cacao has to offer. Also, to understand and implement cultural practices and genetic regeneration techniques, such as clonal selection, selection of cuttings, rooting, grafting, among others, to maintain their crops so they reach their highest productive potential.

In addition, it is important that the volunteer highlights the following during the trainings while also raising awareness of the advantages of cultivating Nacional fine aroma cacao:

- The accumulation of heavy metals in CCN 51 in comparison to Nacional, which causes this cacao variety to lack aroma, making it less valuable in the markets.
- Discuss the phenological differences of both cacao varieties by size, shape and color of the pod.
- Demonstrate to participants the importance of selection criteria and renovation of the cacao plantations by using available resources within their farms.
- Discuss and teach about genetic crossbreeding through induced pollination of flowers.

- What methods have the Host Organization used in the past and why haven't they worked? (If applicable)

Once a year, República del Cacao has a grafting intervention program that provides support with machinery such as electric saws, and height pruners, among others. These tools are provided for a week so that the producers can carry out pruning work on their farms, at least 2 ha on each farm. In addition to this, they also provide instructions on how to carry out maintenance pruning and height control. About 15 farmers have basic knowledge of pruning techniques. Also, 3 producers have some knowledge in grafting, but they need further guidance. Some of the common mistakes when grafting include:

- That only a small portion of the cambium regions of the rootstock and bud are brought into contact and as a consequence water movement cannot take place and the bud subsequently dies.
- Choosing old and unproductive trees. It is common to find trees over sixty years old or plantations that have not been renovated. This can be due to the high cost of plantation renovation and also lack of knowledge in pruning techniques.
- Poor waxing and uneven cuts.
- What is the level of education of the anticipated trainees? i.e. specify if trainees have completed elementary / secondary school only or some have a university degree, or if they have non-formal education.

Carlos Zambrano is a technician at República del Cacao's collection center and a professional expert in the field. The audience will be farmers, some of which 90% completed elementary school while the rest completed high school.

- How many women, youth (ages 15-29), and/or people with disabilities will attend this training series? What, if any, accommodation is required for those individuals with disabilities?

It is expected that most of the attendees will be women and we also expect around 20 youth in the trainings.

No accommodation for persons with disabilities is necessary.

- Is there someone available who speaks advanced English in the organization? Carlos Zambrano, a technician at Republica del Cacao's collection center speaks conversational English.

The F2F Field Coordinator will provide support with translation and training facilitation to the volunteer.

- What equipment/resources/technology is available to address the needs of this assignment? Take into consideration administrative equipment (i.e. projectors, computer) and technical equipment (i.e. chemical sprayer, dryers, financial software).

República del Cacao can lend equipment for the practices, including pruning scissors, chainsaw, and hand pruning saw.

- How many communities will the volunteer visit on this assignment? (Please list names)

Trainings will be held in the following the locations within the Vinces canton:

- Baba
- Junquillo
- Estero de Caña
- RDC's collection center
- "Arquitecto" demonstrative farm.

These communities are located within a distance of 5 to 15km from the collection center.

- Are there past assignments with this host organization?

No Yes If yes, please elaborate _____

Please specify any other information/documents the volunteer should review prior to the assignment: ____

3. Host Organization Profile

- Provide historical context/background information of the Host Organization. Explain when the Host Organization was established and what does the Host Organization do?

During the 19th century, Ecuador emerged as one of the world's leading producers and exporters of cacao, with the Los Ríos region, and Vinces as one of its key centers, being fundamental to this boom. The cacao variety known as "Nacional" stood out for its fine flavor and aroma, which gave it a great reputation in international markets (Suárez & Ruales, 2016). Cacao cultivation in Vinces not only had a significant impact on the local economy but also influenced the social structure of the region. Large cacao estates emerged, and indigenous and Afro-Ecuadorian labor was essential for production. This period was also marked by social and labor conflicts due to harsh working conditions and economic inequalities (Álvarez, 2018).

In the mid-20th century, cacao production in Vinces declined due to diseases such as witch's broom and moniliasis, as well as competition from other cacao producing countries. However, in recent years, significant efforts have been made to revitalize cacao cultivation in the region through the implementation of sustainable agricultural practices and the reintroduction of disease-resistant varieties (Benítez et al., 2019). Within these initiatives, local governments donate cacao plants of the CCN51 variety to promote the cultivation of cocoa. However, this variety is not fully adapted to Ecuador's environmental conditions and using traditional cultural practices with this variety produces low yields and low prices in the market.

República del Cacao, on the other hand, encourages producers to produce using the Nacional cocoa variety prioritizing quality of the product through an endemic variety and extensive historical importance. They promote improving its productive performance based on improved cultural practices with an organic and environmentally friendly approach.

Some of the PCV producers were part of the Pepa de Oro Peasant Corporation and another defunct association. PCV contacted RDC and a long-term commercial relationship started. PCV farmers benefit directly from a differentiated price and direct commercial links with RDC. Some producers are also dedicated to complementary crops like guava, breadfruit, and citrus (including oranges and lemon). These crops are for self-consumption. Also, some farmers complement their income by adding value to their cacao and producing cacao paste. PCV farmers market these value-added products themselves to other clients.

- How many employees and/or members does the Host Organization have?
The suppliers represent a group of 60 farmers distributed in different communities around Vinces Canton.
- How are women and youth (ages 15-29) being engaged in the organization?
Around 70% of the cacao suppliers are female. An estimate of 20 farmers is youth.
- Any other relevant information? N/A

4. Partner Organization - Provide information on partner organization if applicable.

- Who are they? República del Cacao (RDC).

- What services do they provide to the Host Organization?

República del Cacao buys and collects 60-70 tons/ha of cacao from the 60 cacao producers in Vinces. República del Cacao's collection center covers an area of 7 hectares, with a collection capacity of 300 tons/year. In these facilities, fermentation, drying, and sorting and selection processes are carried out. It is then taken to the processing plant in Quito. In this processing plant, RDC prepares an array of 22 chocolate bars with different profiles according to the region of origin of the cacao used for its production. They also have a professional line of cacao by-products that are used by chefs. Their Chef-Line chocolate products are used in restaurants for baking, in sauces, or even preparing their own chocolates. In addition to the raw material collection and processing services, the facilities include a greenhouse, which is planned for future implementation of a field laboratory which will serve to generate and reproduce mycorrhizal cacao plants to be distributed to the PCV ensuring a supply of certified plants from a known nursery.

- Any other relevant information?

República del Cacao was started in 2005 when its Ecuadorian founders, the Chiriboga brothers, walked into a chocolate store in Paris and asked to taste the finest chocolate in the place. The store assistant brought them the most precious chocolate he had. The brothers, amazed and excited, did not hide their surprise when they discovered that the cocoa in this very special chocolate came from the well-known region of Guayaquil. Despite knowing the cocoa history of Ecuador, they were never aware that Ecuadorian cocoa was one of the best in the world. Since then, they have been taking strong steps, with the launch of their consumer chocolates in 2007 and their professional line in 2014. The volunteer can take a look to República del Cacao's web page, available in English Page: <https://republicadelcacao.com/pages/about>

5. Assignment Logistics - The F2F Field Coordinator will accompany the volunteer during the assignment and help him/her facilitate trainings. Training times will be agreed upon with the host organization at the beginning of the assignment. The in-country daily itinerary will be coordinated with the Field Office.

Daily per diem:

- **Lodging:** The field office will take care of lodging expenses in the host country.
- **Meals & Incidental Expenses:** The volunteer will be provided per diem, which covers meals in-country as well as travel days. Additional assignment or travel expenses incurred may be reimbursed upon submission of a complete expense report and approval of HQ. Daily allowance rates are included in the Welcome Book.

For more information, please review the Ecuador Welcome Book or contact the Field Office Staff.

6. Prior to departure or before leaving the US - take into consideration the following:

- Recommended Preparation (Information regarding the place, environment, weather, clothing, and cultural aspects of where the training will be developed):

Vinces is located in Los Ríos province, at an average altitude of 17 m.a.s.l. The average temperature is between 71.6 – 89.6°F (22-32°C) and a humidity of 65 – 80%. You can expect it will rain at any time of the year. In clothing, modesty is always the best policy. We recommend using pants and long- sleeve shirts to avoid mosquito bites and the constant use of sunscreen, repellent, and comfortable and non-slip shoes. As an additional measure, it is always advisable to carry a poncho or a waterproof jacket and cap or hat. It is also recommended to wear rubber boots for field visits.

People in Ecuador are characterized by their hospitality and kindness, as a basic rule of education people greet when they arrive at a place either only by word or with a handshake.

The Farmer-to-Farmer approach is a two-way learning process, farmers learn from the expert volunteers, but volunteers also learn from the farmers. Hence, empirical and community knowledge should be taken into consideration when designing training materials.

- Establish an appropriate training plan based on an anticipated timeline (Appendix I) and your audience. The volunteer may contact the Field Coordinator to design the training plan and draft training materials; HQ will serve as a liaison for this communication.
- Please note that any training materials needed are the responsibility of the volunteer. If the volunteer needs extra materials, this should be requested at least two weeks before the assignment starts.

7. Communication with the HO - If the volunteer would like to communicate with the HO before the assignment begins, a virtual meeting can be scheduled by MS Teams, WhatsApp or Zoom. In the case of a paired remote assignment communication will be agreed between all those involved. In the case of a paired assignment virtual communication will be a must to accomplish the assignment objectives.

8. Volunteer Profile and Qualifications Description- Information on education and experience the selected candidate should possess.

- The volunteer should have experience in the management of genetic resources, and genetic regeneration with emphasis in cacao. The volunteer should also have knowledge in grafting and best cultural management practices in cacao.
- A degree in Agronomy, botany, plant physiology, or a related field.

- Background working with associations in agriculture is a plus. Experience in Latin America is also desirable. Fluency in Spanish is highly desirable but not mandatory.

9. Farmer-to-Farmer Contact Information

HQ Washington DC Staff

National Cooperative Business Association / Cooperative League of the USA
 1775 Eye Street, NW • 8th Floor Washington, DC 20006




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Field Office Staff

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About Us

-  Worldwide Farmer-to-Farmer program: www.farmer-to-farmer.org.
-  F2F implemented by NCBA CLUSA: <https://ncbaclusa.coop/programs/volunteer/>
-  Follow us on Instagram! [@f2fncbaclusa](https://www.instagram.com/f2fncbaclusa)

Appendix 1. Anticipated Work Agenda

The following agenda is tentative, and it could be modified based on discussions with the Field Staff and Host Organization before the assignment begins. Volunteers should include the preparation of the trip report and training materials as volunteering hours in their timesheet.

Note: Arrivals in the country are usually on weekends.

Assignment Day	Day	Assignment Agenda
1	Sun	Arrive in-country/ Guayaquil
2	Mon	Travel Day Guayaquil to Vinces /Meeting RDC Staff
3	Tue	Trainings
4	Wed	Trainings
5	Thu	Trainings
6	Fri	Trainings

7	Sat	Day off
8	Sun	Day off, or work on trip report or materials if necessary.
Assignment Day	Day	Assignment Agenda
9	Mon	Trainings
10	Tue	Trainings
11	Wed	Trainings
12	Thu	Present preliminary Trip Report and SMART recommendations to the HO and discuss next steps with the HO.
13	Fri	Travel Day return to Guayaquil
14	Sat	Day off/in-country travel day or finalize trip report, timesheet, and expense report if necessary.
15	Sun	Depart for home

Appendix 2. Type of assistance and indicators (for internal NCBA CLUSA project use)

HO name	Productores de Cacao de Vinces (PCV)
Type of Host Organization	<input type="checkbox"/> Cooperatives and Associations (C) <input checked="" type="checkbox"/> Individual Private Farmers (F) <input type="checkbox"/> Other Private Enterprise (P) <input type="checkbox"/> Non-Profit/Public Interest NGO (N) <input type="checkbox"/> Public and Private Educational Institution (E) <input type="checkbox"/> Rural Financial Institution (R) <input type="checkbox"/> Government Agency (G)
Type of Volunteer Assistance	<input checked="" type="checkbox"/> Farm/Technology Transfer (T) <input type="checkbox"/> Processing/Technology Transfer (P) <input type="checkbox"/> Business Enterprise Development (E) <input type="checkbox"/> Financial Services (F) <input type="checkbox"/> Organizational Development (O) <input type="checkbox"/> Building Capacity of Support Services (S) <input type="checkbox"/> Administrative (A)
Value Chain Activity	<input type="checkbox"/> Information and Input Support Services (input supplies) (S) <input checked="" type="checkbox"/> On Farm Production (F) <input type="checkbox"/> Processing (product transformation, storage, transportation) (P) <input type="checkbox"/> Marketing (branding, promotion, sales) (M)
PERSUAP – Volunteer Assignment Type	<input type="checkbox"/> Type 1 Volunteers provide direct assistance for the use or procurement of pesticides and are likely to recommend

	<p>and/or provide advice on specific pesticide active ingredients or products.</p> <p><input type="checkbox"/> Type 2 Volunteers provide indirect assistance for the use or procurement of pesticides; they are not expected to recommend or provide advice on specific pesticide active ingredients or products.</p> <p><input checked="" type="checkbox"/> Type 3 Volunteers are not expected to be involved in pesticide issues.</p> <p><input type="checkbox"/> Type 4 Volunteers work on a separately funded USAID project/activity which may have a PERSUAP governing its operations related to the use and procurement of pesticides.</p>
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References

- S&P Global. (2023). Interview Article: Ecuador aiming to double cocoa production in next seven years. Retrieved from [S&P Global](#).
- IDB. (2020). Strategies to Strengthen Ecuador's High-Value Cacao Value Chain. Retrieved from [IDB](#).
- Springer. (2016). Determinants of certified organic cocoa production: evidence from the province of Guayas, Ecuador. Retrieved from [Springer](#).