

# PROJECT STATUS REPORT

07/01/2021 - 12/31/2021

## SECTION 1: PROJECT SUMMARY

**Operation number:** RG-T3464

**Suboperation number:** ATN/NV-17700-RG

**Project Name:** EcoMicro - Carbon, Climate and Coffee: Moving the Needle from Cool Farms to Soil Carbon Premiums

**Purpose:** Use of CFT to track emissions/carbon sequestration

**Country admin:**

BARBADOS

**Country beneficiary:**

Regional

**Group:**

C

**SubGroup:**

**Executing Agency:** Root Capital

**Team Leader:** RUTHH

**Score Image:**

**Total Score:** 2.427

**Project cycle:**

**Report Date:** 2022-01-04

**Approval Date:** 2019-11-11

**Signature Date:** 2020-01-20

**First Disbursement Date:** 2020-11-23

**Original Execution End Date:**

**Current Execution End Date:**

**Original Last Disbursement Date:** 2023-01-20

**Last Current Disbursement Date:** 2023-08-06

## SECTION 2: PERFORMANCE

### Project's performance summary since the beginning

EcoMicro - Carbon, Climate, and Coffee: Moving the Needle from Cool Farms to Soil Carbon Premiums is a three-year project in partnership with Root Capital, Sustainable Food Lab (SFL), Cooperative Cooperative Coffees, The Chain Collaborative (TCC), and the Inter-american Development Bank (IDB) to pilot and upgrade the Cool Farm Tool (CFT) with six coffee cooperatives in Latin America between 2020-2023. By deploying the CFT—a digital tracker measuring a farmer's carbon storage and emissions—and adapting it to better serve coffee farmers, the project is leveraging the power of the CFT and digital data surrounding farming practices to generate additional value for producers. By 2023, this project seeks to design a carbon premium line of credit to reward coffee farmers who are a) implementing regenerative, organic coffee farming activities, and b) achieving targeted carbon sequestration (i.e., CO2 scores) as a leading strategy for greater climate resilience. Since the beginning of the project in July 2020, the team members have worked on the following components: To launch the project, Root Capital and SFL selected iFormBuilder, a digital survey tool, as the main tool for collecting carbon-related data from coffee producers in the field, and then worked together to select the initial data points that producers would input into the draft iForm. Root Capital led virtual meetings and training with the participating cooperatives (with support from SFL and Cooperative Coffees) to present the draft iForm and explain how to pilot and apply it with an initial cohort of 60 producers. The six participating cooperatives applied the tool in the field at the end of 2020, collecting data from 60 unique male and female producers. They provided feedback to the Root Capital and SFL teams during this time, in order to recommend improvements and updates to the iForm and data collection process. Based on producer feedback and data initial analysis from the pilot application of the tool, Root Capital and SFL worked together to develop a second version of the iForm that would a) solve data quality issues, b) correct certain assumptions, and c) be more relevant to coffee systems. TCC completed a gender analysis of the participating cooperatives and designed and executed a press release and webinar-based outreach plan for 2021. The full gender assessment for the cooperatives has been completed in both English and Spanish, and a shortened, summarized version of the report has also been completed and shared with the cooperatives. In the first half of 2021, TCC led a webinar series about the intersection of climate change and digitalization, during which the CFT was highlighted as a use case. Cooperative Coffees purchased a website as a “holding space” in order to share the project's progress and to encourage greater industry adoption of and participation in carbon premium models in the future. They have also been actively participating in several industry-wide events to share the project with a variety of climate and coffee actors. Cooperative Coffees and SFL worked to develop initial drafts of visual aids and how-to guides about the CFT, in order for cooperative staff to use them in the field with producers during data collection. The guides and visual aids are intended to show users how the CFT works and how to answer questions in the iForm.

### Supervision Team Leader comments

Overall the EA is making substantial progress with the implementation of this project - including having expedited implementation and already met 2022 Milestones, and made substantial advances with activities across key components.

### Project's performance summary in the last 6 months

Key achievements from the reporting period (July to December 2021) include: Finalizing the second version of the iForm in preparation for the second round of data collection (i.e. Phase II); Completing and applying the draft CFT user guides for cooperatives and producers during phase II of data collection; Conducting important outreach with the industry; and Creating initial assessments/estimates of potential premium amounts.

Finalization of iForm Version Two: Using survey results from cooperative managers—who provided feedback on upper and lower limits for certain data points during the final phases of the last reporting period—SFL and Root Capital worked together to finalize a second version of the iForm in August 2021. Based on feedback from cooperatives during phase I data collection, for version two, our team members focused on updating certain pre-sets fields. Various new options for fertilizers, farm management activities, certifications, productivity levels, and forest and eco-system types were added, while certain crop protection products were eliminated due to their irrelevance to the perennial coffee system. We also focused on the further simplification of questions for enumerators around land use, given cooperative requests for clarity. Above all, during this time of making updates, it was important to ensure that version two would be simple and easy to use, while also remaining robust and accurate. This is a best practice in the field of carbon measurement and a request that was reiterated by cooperative partners. Completion and Application of User Guides: Alongside the development of version two of the CFT, Cooperative Coffees authored a user guide that was in-line and compatible with the iForm. It was available in time for the online producer workshops that Root Capital hosted starting in August 2021. These workshops allowed Root Capital to share the tool updates with the participating cooperatives and provide additional support ahead of phase II data collection. Given requests from the participating cooperatives and conversations with the team during phase I of data collection, Cooperative Coffees leveraged their learning to ensure that the user guide would be both visual and explanatory in nature. It was important that producers could see visual examples of on-farm components that they were supposed to be measuring alongside explanations of how to translate those visual observations into the correct data choices in the iForm. This guide served as an additional resource for the producer organizations while they were in the field. Industry Outreach: Between August and December 2021, Cooperative Coffees continued to work on the development of their carbon-related website. They are still in conversation with the developer to work out the final tweaks before launch. Meanwhile, between October and November 2021, Cooperative Coffees also worked with TCC to organize and launch a webinar series designed to highlight the project, share the science behind carbon-smart agriculture, and explain the relevance and use of the CFT. The last webinar in the series also discussed opportunities for scaling carbon-neutral or net-zero approaches throughout the value stream. In total, there were 78 attendees in the first webinar, 96 in the second, and 71 in the third. The total number of people registered was 275. The recordings are also available online (<https://vimeo.com/639627268>; <https://vimeo.com/644099440>; <https://vimeo.com/647825966>). Finally, members of the project team have been in touch with World Coffee Research to update them on the plans for this project and the capacity of the CFT, as this organization is beginning to engage more in carbon and climate, and recently published a white paper on the topic. Initial Premium Analysis: Lastly, during this reporting period, team members made progress in establishing initial estimates for premium payments based on emissions data. First, Cooperative Coffees developed guidelines for their approach to carbon storage premiums and shared their initial payment plans with participating cooperatives via virtual presentation. They communicated their initial desire to pay \$50/ton for carbon stock, and then \$30/ton after that, based on year-over-year growth in carbon capture. To date, no payments have been made, as the team is waiting on phase II data to confirm sequestration averages. In the meanwhile, however, SFL reviewed phase I data to make initial calculations, leveraging existing carbon accounting methodologies and related assumptions to establish a conservative estimate of payment to participating farmers.

#### Supervision Team Leader comments

The EA continues to make substantial progress with the rollout of the Cool Farm Tool. Their participatory approach has allowed the EA and partners to benefit from important lessons learned - resulting in implementation of revisions to the tool based on feedback from cooperatives. Advances have also been demonstrated with regards to the carbon premium and we are hopeful that farmers will benefit from payments during the next reporting cycle. The EA continues to find strategic approaches to manage ongoing restrictions resulting from COVID-19. The fact the EA has already met both Milestones for 2022, demonstrates their significant ability to advance implementation, despite continuing challenging circumstances.

### SECTION 3: INDICATORS AND MILESTONES

C1 : Implementation and Adaptation of Data Tools		Weight 40%		Qualification High Satisfactory	
Indicators	Baseline	Planned		Achieved	Status
I1	0	1 ( 2021-01-20)		1 ( 2021-04-30)	Finished
I2	0	2 ( 2023-01-20)		2 ( 2021-12-31)	Finished
I3	0	12 ( 2023-01-20)		16 ( 2021-12-31)	Finished
I4	0	275 ( 2022-01-20)		355 ( 2022-01-31)	Finished
I5	0	1 ( 2021-01-20)		1 ( 2021-07-29)	Finished
C2 : Carbon Premiums and Knowledge Management		Weight 40%		Qualification High Satisfactory	
Indicators	Baseline	Planned		Achieved	Status
I1	0	250 ( 2022-08-06)			In progress
I2	0	200000 ( 2023-08-06)			In progress
I3	0	15000 ( 2023-01-20)		275 ( 2022-01-31)	In progress
I4	0	12500 ( 2023-08-06)			In progress
I6	Report on GHG emissions avoided through adoption of regenerative, carbon-sequestering organic practices	0	2 ( 2023-08-06)		In progress
I7		0	250 ( 2023-08-06)		In progress
I8		0	6 ( 2023-08-06)		In progress
I9		0	24 ( 2023-08-06)		In progress
I10		0	1 ( 2022-08-06)		In progress

<b>I11</b>		0	<b>400000</b> ( 2023-08-06)		In progress
<b>I12</b>		0	<b>15</b> ( 2023-01-20)	<b>6</b> ( 2021-12-31)	In progress
<b>I13</b>		0	<b>1</b> ( 2023-08-06)		In progress
<b>I14</b>	Report on tonnes of carbon sequestered through adoption of regenerative, carbon-sequestering organic practices.	0	<b>2</b> ( 2023-08-06)		In progress

### C3 : Monitoring and Evaluation

Weight 20%

Qualification High Satisfactory

	Indicators	Baseline	Planned	Achieved	Status
<b>I1</b>		0	<b>5</b> ( 2023-01-20)	<b>3</b> ( 2021-12-31)	In progress
<b>I3</b>		0	<b>1</b> ( 2021-01-20)	<b>1</b> ( 2021-08-06)	Finished
<b>I2</b>		0	<b>1</b> ( 2023-08-06)		In progress

	Milestones	Planned Value	Achieved Value	Due Date	Achieved Date	Status
	Cool Farm Tool data collection system created	1	1	2021-08-06	2021-06-10	Achieved
	Initial tool testing with farmer participants completed	50	55	2022-02-06	2021-07-29	Achieved
	Application of CFT to 200 farmer participants	200	236	2022-08-06	2022-01-31	Achieved
	Organizational climate risk assessments conducted	1	0	2023-02-06		Pending
	Final learning exchange completed	1	0	2023-08-06		Pending
	Cumplimiento de condiciones previas estipuladas en el convenio / Compliance of p	1	1	2021-02-06	2021-01-11	Achieved
	TC Agreement signed with New Executing Agency	1	1	2021-02-06	2020-08-04	Achieved
	Plan of Operations developed	1	1	2021-08-06	2020-10-19	Achieved

### Critical facts that have affected project's performance

- Design of project/Components

### Others, Which?

Given some slight delays in phase II data collection, to date, Cooperative Coffees has only been able to meet with producers to share their plans and promissory notes for carbon premium payments. They have yet to disburse funds, as the payment is pending based on the final estimated amount of carbon stored per group, a number which will be established post-phase II data collection. Cooperative Coffees did, however, share their initial financial proposal with the cooperatives, a proposal that has been approved by their roaster partners.

## SECTION 4: RISKS

Impact Area	Severity	Prob.	Date	Responsible	Mitigation action
Market and Participation Risks	Implementation and Adaptation of Data Tools, Carbon Premiums and Knowledge Management	(2) Low	Low 40%	2021-01-18	Executing Agency
The team planned to mitigate market and participation risks by communicating about project advances and participating in industry-wide events to bolster the message of the project and the ways in which it can contribute to both economic and environmental resilience. Disseminating information can mitigate risk, as with more knowledge, industry actors may feel more comfortable and empowered to invest in new solutions given their proven benefits, despite the additional effort they may require. Below, we share information about the industry events we took part in during this reporting period. Between October and November 2021, TCC and CCC organized a webinar series designed to highlight the project, share the science behind carbon-smart agriculture, and explain the relevance and use of the CFT. The last webinar in the series also discussed opportunities for scaling carbon-neutral or net-zero approaches throughout the value stream. Team members from all organizations had the opportunity to participate in the above webinar series. Meanwhile, other opportunities were leveraged throughout this reporting period, such as Monika Firl from Cooperative Coffees attending COP26 in Glasgow to represent the project and participate in conversations and summits.					

COVID-19 Pandemic	Implementation and Adaptation of Data Tools	(3) Medium	High 80%	2021-01-29	Executing Agency	<p>To date, the team members have been able to manage COVID-19 challenges for this project via virtual training. However, one of the initial visions of this project was to conduct regional exchanges so that farmers could come together in the field and learn from each other about best practices. At present, given that COVID-19 still poses a challenge, especially in Latin America, the team members are looking at a hybrid model, conducting more local field workshops and then a potentially larger regional field exchange by the end of 2022. Cooperative Coffees is currently communicating with each participating producer organization to understand the COVID-19 restrictions in their countries and areas, their sense of comfort in receiving visitors, and their opinions on how to best conduct and exchange field experiences. We envision that a best case scenario might be to first conduct a "regional South America" gathering in Peru and a "regional Central America" gathering in Honduras between November 2021 and February 2022, before bringing everyone together more completely before the end of the project. Due to connectivity and lack of access to digital technologies in the field, doing these on-farm exchanges entirely remotely over Zoom or WhatsApp is not feasible or desirable.</p> <p>To date, the team members have been able to manage COVID-19 challenges for this project via virtual training and limited in-person meetings with cooperatives and producers. However, one of the initial visions of this project was to conduct regional exchanges so that farmers from various countries could come together in the field and learn from each other about best practices. Given ongoing challenges with the COVID-19 pandemic and the difficulty of international travel as a result of ongoing restrictions (e.g. the need for testing, continued fear of travel, new variants), team members have been discussing the possibility of using learning exchange funds to support local workshops in each of the cooperatives. For example, each of the cooperatives may be able to train more of their own staff or producers in the use of the iForm and its benefits. In order to make such training even more successful, team members noted that it will be necessary to work on a more finalized version of the visual aids/guides, and to make investments into their design (i.e. graphic design investment). This will make the guides even more user-friendly and allow them to serve as excellent tools for field training and iForm application</p>
COVID-19 Pandemic	Implementation and Adaptation of Data Tools, Carbon Premiums and Knowledge Management	(4) High	High 80%	2022-01-31	Executing Agency	

**TOTAL RISKS QUANTITY: 3**

**IN EFFECT RISKS: 3**

**NOT IN EFFECT RISKS: 0**

**MITIGATED RISKS: 0**

## SECTION 5: SUSTAINABILITY

**Indicate likelihood of project sustainability after project completion: HP**

### **Justification:**

The project design factors in heavy emphasis on participatory approaches throughout the building and designing of the Cool Farm Tool as well as advancing considerable efforts in building capacity of local partners (Cooperatives, farmers etc.). These approaches ensure steady buy-in, adoption rates and long term capacity to manage the tool post-project.

### **Aspects that put the project sustainability at risk**

Factor	Comments
Others, Which?: N/A	

## Actions related to sustainability which have been implemented in the project:

During this review period, Root Capital led several virtual workshops to train the participating cooperatives in the use of the second version of the tool. In total, between August and December 2021, Root Capital offered 27.4 days of training to cooperatives and producers, reaching 147 people in total. The training focused on presentations about the phase II data collection tool and process, as well as presentations about the user guide. More specifically, during the meetings to discuss the new version of the iForm with participating cooperatives, Root Capital first shared the results from the initial phase of the pilot and clarified some of the data that was collected and analyzed. Second, they explained to the cooperatives where data collection and quality needed to be improved for phase II (based on the first round of data analysis). Third, they shared the changes to the tool, and explained how and why these changes were made in order to improve data quality. Fourth, they explained how the project team members planned to help the cooperatives leverage the next round of data collection for the future (i.e. later, help them move forward to train more producers and also access more funding). Meanwhile, this project period saw important discussions about data verification and quality taking place among team leaders. In particular, the team discussed the relevance of soil sampling and remote sensing. Unfortunately, while remote satellite verification is potentially relevant for above-ground biomass, it does not effectively measure below-ground biomass or soil carbon. Soil samples, meanwhile, may also only provide a farm snapshot, but would not allow for the right insight into carbon flux or changes over time. As such, data quality verification for the CFT is still under discussion at the moment, and will likely reflect existing cooperative auditing systems more than anything else once the project is complete. Next, scaling plans for the CFT have not yet been designed and communicated, though SFL noted that there has been increased interest from stakeholders in the coffee-specific CFT module. Unfortunately, this module will not be ready to use until the project's completion. In the meantime, team members are continuing to liaise with others in the sector and in the carbon space. Interestingly, the team has noted that many organizations are only engaged in financing new agroforestry systems (and, in particular, new shade trees rather than coffee trees), meaning that they are not currently interested in rewarding the improved activities of existing carbon-negative or carbon-neutral small-scale farmers. This project's interest in doing precisely that is what makes it stand out on the carbon market. Another aspect of its uniqueness is its focus on below-ground biomass as well as above-ground. We believe this will contribute to its sustainability and uptake over time.

## SECTION 6: PRACTICAL LESSONS

	Relative to	Author	Date
Initial Premium Assessments During this reporting period, progress was made on assessing a potential premium amount for sequestered soil carbon based on the current price of carbon per ton in the market. Existing carbon accounting methodologies make certain assumptions about how to compensate GHG emission reduction or CO2 storage, including assumptions about life cycles and CO2 equivalents. Such assumptions are important because perennial crops tend to lead to temporary, non-permanent sequestration, so it is critical to understand flux and how long carbon stocks have been present in a given system before rewarding changes in storage	Implementation	Root Capital, Cooperatives Coffee, The Chain Collaborative, SFL	2022-01-31
Farmer Incentives for CO2 Sequestration Another topic for discussion is how cooperatives and farmers can be incentivized to conduct data collection and sequester carbon outside of premiums. Team partners noted that a premium amount of just over \$25 USD per year may be too low of an incentive for farmers and producer organizations to collect robust CO2 data, given the expense of such data collection (including time spent). However, because it will be increasingly important for farmers and producer organizations to understand their carbon footprint and sequestration capacity—as well as how to communicate these calculations—to gain market access moving forward, team members believe it will be critical to a) work on strategies that reduce the burden of data collection, and b) support farmers and producer organizations to track improvements in storage and its related impact on yields and market outcomes.	Implementation	Root Capital, The Chain Collaborative, SFL, Cooperatives Coffee.	2022-01-31
Integrating digital tools to pre-populate data points During the pilot phase of the data collection process that Root Capital and SFL conducted with 55 producers across the six participating cooperatives, farmers referenced several repetitions in the questions on the iForm. They also expressed the sentiment that some of their basic data was already stored in other iForms. The team members first noted these repetitions in order to delete any doubles in a follow-up review of the iForm. Second, Root Capital looked into integrating iForms or overlapping the CFT-related iForm with internal inspection systems so that certain data points could be pre-loaded for participating producers. As this is technically feasible, Root Capital agreed to work with each cooperative once the new version of the CFT-related iForm is ready in order to identify overlaps with internal inspections. This needs to be done individually with each cooperative as each organization's internal inspection is different.	Implementation	Root Capital / SFL	2021-07-29
Controlling for regional variances in responses There were some data points that demonstrated a large variation in response among participating producers and cooperatives, including tillage and soil PH. In addition, the team found that even within the same country, there are differences and variations in how people understand or measure the same things, such as stumping. Regional exchanges will be very important in understanding how to account for such differences in the same tool, in order to take the work to scale. However, up to now, by working individually with cooperatives, the team members were able to recommend question and calculation updates for the second version of the tool and/or note when changes themselves didn't need to be made to the iForm, but more training was required in order for producers to better understand a certain question, or how to respond to it.	Implementation	Root Capital / SFL	2021-07-29
Improving CFT data quality Initial tool testing was a success, as it allowed team members to			

resolve iForm issues to ensure the data collection process was completed successfully. While most cooperatives were carbon negative, the team members believe that the results would have been higher had certain questions been better understood by cooperatives and producers. With the upcoming revisions to the tool and the addition of the visual aids and how-to guides to better support farmers in understanding how to provide inputs for the iForm, data quality will improve and the team will be able to test their assumptions.

Implementation Root Capital /  
SFL

2021-07-29