Project Name: More Coffee with Less Water

Section 1: Concept Overview

Project Objective: For a product to be truly sustainable, how we use our planets freshwater supply must be of absolute importance in the sustainability chain of that product. Around the world, from the droughts in the United States, to the water shortages effecting the coffee industry in Vietnam and Africa. Our planet is using its fresh water supply faster than it can be replenished. As a matter of fact, we use about 70% of our fresh water supply to grow our food. In a 2020 article about water management in the production of coffee, the 'Specialty Coffee Association' said, "as an increasingly scarce resource, water availability is a pressing issue facing coffee producers. The way coffee is produced can either be part of the solution to the water crisis, or it can be part of the problem."

Our objective with likeminded partners is to PROVE that through the use of a better irrigation method, more coffee can be grown using less of our planet's natural resources such as water. Our goal is to prove to interested partners that coffee which currently takes about 37gal. (140 liters) of water to produce 1 cup of coffee. Can be reduced to 15 gal. (57 liters), and as far as 4 gal. (15 liters) per cup with the use of a new sustainable irrigation device that currently the U.S. government is now paying U.S. farmers to put on their permanent crops.

Although most coffee produced is rain feed. Irrigation is proving to be the best method to sustain crop yields where climate change is affecting once certain weather patterns. As more and more coffee farms have either a main stay or back-up irrigation system (like the vineyard industry), the way we irrigate and use our resources sustainably, becomes of the upmost importance. Through better irrigation practices, coffee growers and regions can take on climate change head on and stay where they are at, and not move to new forested areas.

Brief Description: Achieving the objective will mean proving the system works for the coffee industry, like it is currently working for other industries. The best part of this aspect of the program is that it only takes just a couple of months of monitoring the new system compared to the existing farm system with a side-by-side test. For this test, a partner will locate a coffee farm anywhere in the world and we will help them set up the test. The farm of choice will take one watering zone and convert this one watering zone to our patented system, of which we will help them convert. The farm and or partner along with us will then monitor the amount of water used between the two systems. The goal of the test would be to keep the moisture readings the same between the two methods. In the end, the difference of water used is easy to determine. The math on the farms annual water usage and the amount of water saved annually can now be calculated. Other things can be calculated as well from these test sites. One item is CO2 output. Water used to irrigate coffee trees is pumped. A pump requires energy to pump that water. If your using 60% less water on your plants, that means you are using 60% less energy to pump that water. This reduction in energy costs is now a savings to the farmers bottom line, and thus creates more profit. This reduction of energy also equates to 60% reduction in the CO2 produced by burning the fuel to run those pumps. One gallon of gas to pump water is equal to 20 lbs of CO2. Imagine the worldwide impact on CO2 reduction from just the reduction of water needed to irrigate coffee.

Country of Focus: Any country that is irrigating coffee.

Key Performance Indicators:

Indicator	Metric	Baseline	Project Target
Water savings and its overall impact	Gallons and liters	Current usage	75% less usage

CO2 reduction from CO2 produced in irrigation	Tons	Current	75% reduction
Fertilizer usage	Tons	Current usage	50% reduction
Yield increase with device	Tons	Current	15% increase
Farmers increased profit from new irrigation device	Dollars	Current	50% increase

Please indicate how this project aligns with the 2025 Targets:

☒ Resilient supply ☒ Improve well-being & prosperity

☒ Strengthen market demand ☒ Conserve nature

The data will show that for 'Resilient Supply', the production of coffee yields will increase over any other irrigation system on the market. It contributes to the 'Strengthening of market demand' by making coffee truly sustainable in the growing of coffee. The device will add value to customers who are concerned about worldwide water shortages and know that what they are drinking was produced using the least amount of water possible. The device will prove that it increases the 'well-being & prosperity' of the farmer that uses it. It does this by increasing their profit margin per coffee plant. The device 'Conserves nature' by drastically reducing the amount of a counties natural resources to be used to grow coffee, it reduces the carbon foot print of every plant, and it reduces the need to expand to forested areas by making current growing areas more climate change combative.
Project Status: New project planned to commence soon

Project Timeline: *Start date: immediately End date: less than 1 year from start date*

Section 2: Partnerships

Involved Parties:

Organization Name	Role in Project	Contribution
Irrigation Technologies, LLC	Lead implementer	Partial funding, project coordination

Expectations for Partner Engagement: We would like to engage with partners that are willing to have us, and our system involved in the growing of their coffee, and to test this system on one or more of the farms in their network, as well as to work with us to collect the data needed to report back to the SCC.

Deadline for partnership opportunities: 7/31/2021

Section 3: Funding

Project Costs:

Total project costs	Costs per hectare of coffee would very depending on the country the test site is located. But for just the DRI units, the cost is about $3,000 US per hectare.
Secured funding	
Funding needed	Partners and or their in-network farm would provide funding for the nominal cost to modify an existing irrigation zone to receive the new device.

Explanation of Funding Use: A test project for any partner with a farm in their network would require a very small investment of up-front capital and time to get the test site going. On other crops around the world, the use of this device has paid for the system in 1 to 2 seasons. Considering the long-term benefit of a successful project, the investment risk is low and the ultimate return not including the environment impact is extremely good.

For more information on this project, please contact Steve Bugay at steve@abetterwaytogrow.com