IBM Newsroom

Heifer International and IBM Work with Coffee and Cocoa Farmers in Honduras to Increase Access to Data and Global Markets

Smallholder coffee and cocoa farmers use IBM Food Trust blockchain technology and powerful AI in IBM Watson Decision Platform for Agriculture to improve farm-level decision-making and speed up transactions.

WASHINGTON, July 7, 2021 -- Smallholder coffee and cocoa farmers and their cooperatives in Honduras are harnessing the power of technology to access new markets and make better business decisions through IBM Food Trust and IBM Watson Decision Platform for Agriculture, working with Heifer International and IBM (NYSE: IBM).

Small-scale coffee farmers operate at an average of 46–59% loss, with farmers earning less than 1% of the sale of a cup of coffee at a coffee shop. Providing transparency along the supply chain through Food Trust, built on IBM Blockchain technology, will help give coffee buyers who purchase from the COPRANIL cooperative in Honduras and Chocolate Halba, which buys cocoa from farmers in Heifer Honduras' Chocolate4All project, a better understanding of their product supply chains, and enable farmers to secure higher prices.

Food Trust helps enable farmers and buyers trace coffee and cocoa beans from the farm to the point of sale, improving transparency along the supply chain and increasing market access. It is currently being used by coffee farmers in the COPRANIL cooperative and cocoa farmers that are part of Chocolate4All. The blockchain technology also provides a record of provenance for smallholder farms, providing farmers with a competitive advantage in the marketplace.

Heifer International and IBM, together with CATIE, an international organization focused on sustainable and inclusive human well-being in Latin America, are also working with farmers to deploy the Watson Decision Platform for Agriculture. The system combines predictive AI technology with geospatial, weather, environmental and IoT field data in a comprehensive dashboard tailored to a farmer's land. It delivers weather alerts and other information, such as optimal planting patterns and expected yields linked to market pricing. These insights can help farmers and agribusinesses make more informed decisions for improving crop yield and value, as well as food safety and sustainability. The technology is expected to play an important role in increasing the incomes of coffee and cocoa farmers.

"For 18 months, we've worked alongside farmers to identify the best ways to improve production processes, digitize the value chain, and ultimately open market access to smallholder farmers so they can secure premium prices," said Jesús Pizarro, Vice President of Financial Innovation at Heifer International. "As one of the first cooperatives in the world to deploy the system, COPRANIL is leading the way, equipping its farmers with the tools and technology they need to build and sustain profitable farm businesses."

Last year, the COPRANIL cooperative produced approximately 1.6 million pounds of coffee beans. Improving quality and traceability can help farmers receive a fair price for their high-quality beans and improve the economic sustainability of coffee farming communities.

"When the people drinking our coffee know where it comes from, the farmers in our cooperative benefit," said Jorge Lopez, Vice President of coffee-producers cooperative COPRANIL. "Food Trust can help our network of farmers command a better premium for their beans, and potentially improve their livelihoods."

Food Trust will also help coffee and cocoa farmers and processors verify certifications, improve treatment processes, and assist

producers with growing high-quality beans.

“Our work with Heifer International and COPRANIL is an important test of how AI and blockchain technology can advance social good and support sustainability by helping even small-scale producers,” said Kareem Yusuf, Ph.D., IBM General Manager AI Applications and Blockchain. “With predictive AI working to help increase crop yield, and blockchain establishing a record of provenance and proof of quality, these farmers are empowered with new data and insights so they can command more at market.”

To trace the beans, users along the supply chain are given permissioned access to upload data onto the Food Trust platform and use it to access documentation, helping ensure an ethical and more equitable supply chain. The process begins with Heifer International uploading information about nurse plants shipped to farmers. After harvest, farmers then tag and ship their beans to the COPRANIL processers. At COPRANIL, additional data is uploaded to the blockchain about the beans, including whether and how the beans are cleaned, dried, and roasted, and if they meet thresholds for Fair Trade, organic, or other designations. All this information is then shared with corporate buyers, who can also access data about the beans to understand their price.

The cooperative and its stakeholders plan to extend their activities and eventually use Food Trust to track commercial documents used by traders and exporters, including bills of lading, invoices, purchase orders, sale orders and certifications, which can improve farm productivity by reducing paperwork and speeding up transactions.

Food Trust will also trace cocoa beans in pulp, prior to fermentation, through to the sale of the dried beans in large volumes to Chocolate Halba. Food Trust will replace the traceability files that currently have to be kept in Excel spreadsheets – a requirement from the company when purchasing ‘A’ quality cocoa. With the use of Food Trust, farmers will be able to register the traceability of all cocoa, ensuring that all producers are integrated into the market, increasing their visibility to large buyers of cocoa worldwide.

“Both Food Trust and Watson Decision for Agriculture technologies are helping our field teams better advise farmers on which cocoa tree varieties are ideal for their soil quality and on the benefits of fermenting and drying beans instead of selling them in pulp form or washed, which is how cocoa beans are traditionally sold,” said Pizarro. “With access to this information, farmers are able to make more informed business decisions.”

Heifer International and CATIE recently hosted a workshop with experts from IBM and the cocoa industry to explore combining macro-climate data and knowledge on cocoa physiology to develop predictive models. The experts aim to use Watson’s artificial intelligence and machine learning capabilities to provide smallholder cocoa farmers with access to data that will help predict cocoa yield and growth.

As part of a long history of harnessing technology to advance rural development, Heifer International is also participating in the 2021 Call for Code Global Challenge to tackle climate change.

About Heifer International
For 76 years, Heifer International has worked with more than 36 million people around the world to end hunger and poverty in a sustainable way. Working with rural communities in 21 countries in Africa, Asia, and the Americas, including the United States, Heifer International supports farmers and local food producers to strengthen local economies and build secure livelihoods that provide a living income. For information, visit https://www.heifer.org.

About IBM
For more information, please visit IBM.com/food.

Contacts:

Heifer International
Kimberly Barbano
Kimberly.Barbano@heifer.org

IBM Media Contact
Anthony Colucci
anthony.colucci@ibm.com

Additional assets available online:

https://stage.mediaroom.com/ibmnewsroom/2021-07-07-Heifer-International-and-IBM-Work-with-Coffee-and-Cocoa-Farmers-in-Honduras-to-Increase-Access-to-Data-and-Global-Markets