

Keeping coffee deforestation-free

4C SERVICES HAS IMPLEMENTED NEW TECHNOLOGIES TO VERIFY THE TRACEABILITY AND VALIDITY OF ITS DEFORESTATION-FREE CERTIFICATION AND EMPOWER FARMERS WITH GREATER KNOWLEDGE.

Common Code for the Coffee Community (4C) Services says climate change is having a significant impact on coffee production. Farmers rely on a well-functioning ecosystem, but extreme weather conditions such as sudden, heavy rainfalls are causing huge damages and exposing crops to increased risk of pests and diseases.

Myriel Camp, Program Manager of 4C Services, says to mitigate these effects, coffee producers should apply good agricultural practices and maintain and restore biodiversity through shade management and biological pest controls.

“The main coffee producing regions are in tropical, biodiverse areas. Many regions in those countries are at risk, especially with increasing temperatures leading to producers looking for higher grounds where the temperature is more suitable for them to grow coffee. This might include forests,” Camp tells *Global Coffee Report*.

This is one of several reasons Camp says coffee farmers could be causing deforestation by converting forests into production areas.

“Another possibility could be that small producers don’t have the means, knowledge, or capacity to increase income through improved production techniques and yields. Often, the only option they see is to expand production into new areas,” Camp says. “Impact oriented certification can provide an opportunity to help them out of this situation through access to training, increased productivity, and additional market access.”

4C Services operates a global certification system for the sustainable cultivation and processing of coffee. Its 4C standard ensures that coffee production is not contributing to deforestation or reduction of biodiversity, that good agricultural practices are respected, and that farmers are sufficiently trained to increase productivity and profitability.

To integrate smallholders into certification and support programs in a cost-efficient way, 4C Services offers a smallholder app that allows them to collect, manage, analyse, and visualise basic data and to capture field polygons directly onsite.

“Deforestation and biodiversity loss are tremendous challenges. A recent report [from the Intergovernmental Science-Policy Platform on biodiversity and Ecosystem Services] shows more than one million species of flora and fauna are endangered due to loss of biodiversity,” she says. “Forests provide a lot of services for human beings too. They are an important carbon sink – [they] purify water and air, maintain wildlife habitats, and prevent soil erosion.”

However, Camp says climate change and a lack of information are not the only drivers of deforestation. Downwards trends in coffee prices are also preventing farms from investing in the environment.

“A producer’s first worry is if their income can cover their costs, which impacts the living conditions of themselves, their families and workers. If they don’t have the financial means, they’d rather invest



Changing climates are causing coffee producers to look for new grounds to plant coffee.

in short-term income-increasing measures than more sustainable long-term plans," she says.

To ensure that coffee supply chains are free of deforestation, 4C Services uses remote sensing technology capable of monitoring coffee production areas and detecting changes in land use.

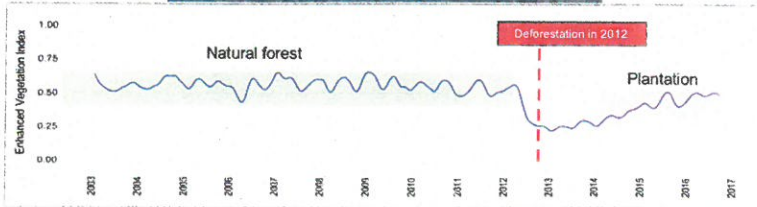
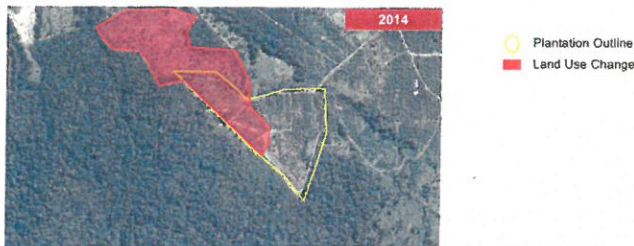
"With this technology, one is able to identify the exact point in time when land use has changed in a certain region," Camp says. The technology uses the Enhanced Vegetation Index, with values ranging from zero to one, indicating the greenness of the soil cover.

"The closer to one, the greener the area. If it drops below 0.25, this is a clear indicator for bare soil. This could be caused by deforestation or just replanting crops, but with the help of satellite imagery, we can assess what has actually happened on the ground."

The remote sensing technology is currently used in the coffee producing regions of Brazil, Colombia, Mexico, Guatemala, Honduras, Peru, the Democratic Republic of the Congo, Indonesia, and Malaysia with plans to shortly expand it to Vietnam, Ecuador, and Bolivia.

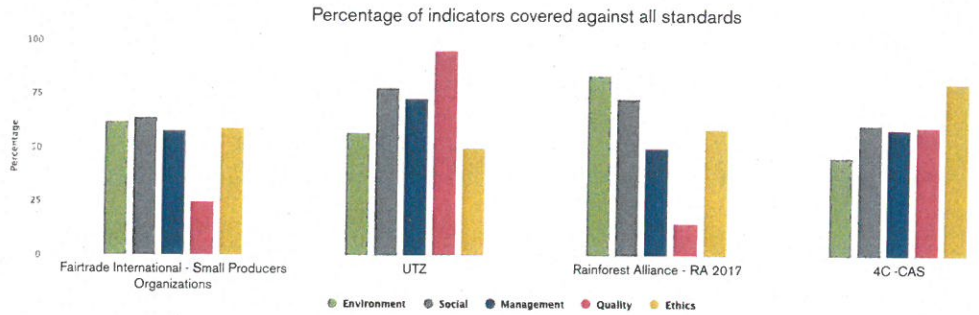
4C Services is also in the final phase of developing a tracking app, which will improve traceability and efficiency within the 4C Units of its certification system.

"The origin and amount of 4C coffee per farmer will be collected, monitored, and analysed through a QR code system and unique trip IDs. These will then be uploaded into a data management tool by the collector of the coffee, which the dry mill or managing entity in charge of the group's certification



Detection of deforestation through an EVI time series and satellite image.

ITC sustainability map: Percentage of indicators covered against all standards.



Percentage of requirements for each of the standards down per sustainability area, as referenced in the T4SD database.

can assess and countercheck," Camp says.

"It can be seen where potential deficits exist, due to low yields of coffee quality from certain farmers, and if further training is needed to improve the situation. Hence, it can also serve as a monitoring and control tool."

The 4C Principles are laid down in its Code of Conduct, developed in a comprehensive and transparent multi-stakeholder process involving coffee producers, trade and industry and various civil society organisations from around the world. This communication led to the creation of the 4C Association in 2007. In April 2016, the 4C Association chose to separate its commercial certification and pre-competitive activities, forming Global Coffee Platform (GCP) and Coffee Assurance Services, today called 4C Services.

Despite this separation, Camp says 4C Services remains a system based on multi-stakeholder dialogue with strong connections to GCP, of which 4C Services continues to be an active member. To further contribute to conversations of issues at origin and how to tackle them by applying innovative tools and technologies, 4C Services held its first Global Sustainability Conference in June 2019. The German conference saw government and non-government organisations, multinational companies, and producer organisations – such as the Conservation International, Global Coffee Platform, Nestlé, and Federación Nacional de Cafeteros de Colombia – unite to discuss strategies of leading brand owners, how to increase the impact of sustainability certification, and innovative tools for risk assessment and conduction of audits.

"The goal was to host a discussion platform with different kinds of stakeholders to paint a broad picture from all these perspectives on challenges facing sustainable supply chains and to provide answers for these issues," Camp says.

"The Global Sustainability Conference is something we would like to do on a regular basis in order to learn from these discussions and to continuously improve our system."

She adds with the recently published survey from the International Trade Center, Retail Perspective on Sourcing Policies and Consumer Demand, it is clear that the sourcing of sustainable products is a market requirement with consumer demand for sustainable and certified products continuously on the rise.

As such, 4C Services has seen a growing understanding of the importance of sustainability certification from companies across the supply chain. With the new possibility of on-product 4C logo and claims, the company has seen not only European companies such as Melitta, but also producers such as Cocatrel and Cooupe take advantage of this opportunity to make their commitment visible to its customers. Camp says it is important companies seek external verification of their sustainable practices.

"Anyone can make a claim, but to make it credible is another thing." GCR