



Lessons from the field:

A collaborative approach to monetising the value of supply chain transparency

FAIRFOOD

FAIRFOOD

Practical findings from Uganda and Sierra Leone on collaboration, inclusive design and farmer engagement

Foreword	5
Introduction	8
Harnessing digitalisation to improve livelihoods in Uganda and Sierra Leone	10
Uganda: Telling a coffee sustainability story	14
Sierra Leone: Daring to trace cocoa	18
Findings: traceability opportunities and hurdles for every supply chain actor	24
Recommendations	28
translating traceability efforts into actual value	28
Conclusion	36
the pivotal downstream dynamics of value transformation	36
Bibliography	36
Annex	36

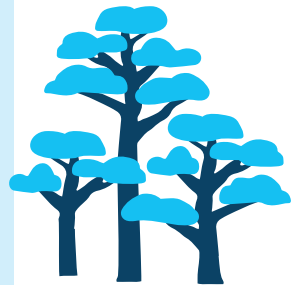
All pictures in this report were taken by Fairfood and Solidaridad employees during project implementation.



Foreword

It may still seem like a faraway future to many companies, but deforestation-free food will be on the menu soon. Just as the Corporate Sustainability Due Diligence Directive and Anti-Greenwashing laws promise to make fully traceable food the norm, Fairfood has been advocating for greater transparency in food value chains for 23 years now. That's why we welcome these new laws – but we also flag concerns.

Thus far, smallholders who produce cattle, cocoa, coffee, palm oil, rubber, soya, and wood, but do not market their products in the EU themselves, are under no direct legal obligations to follow EU directives. However, their business partners, who do market these products in the EU, require them to provide insight into their production. To comply with the regulations, buyers, traders and EU brands need data – *and lots of it*.



deforestation-free
food will be on the
menu soon

If the word “data” seems vague, it might help to think of the fast-growing need for “verification”: proof that your products are, for instance, deforestation-free. The food industry is on a quest to secure quality evidence at farm-level. Already familiar with navigating the plethora of required data alongside companies looking to make their supply chain more transparent, Fairfood has taken on the role of a data fiduciary partner. Because of the diverse data demands of the value chains we work with, each of our traceability projects experiments with innovative data governance models. Instead of simply harvesting or extracting data, we advocate for a data sharing approach that maps how value is distributed throughout entire chains, leveling the playing field for the most disadvantaged.

Transparency remains the pillar of Fairfood's work, and the main enabler for this is our traceability tool, Trace. Trace's technology connects international value chain stakeholders to effectively address potential social and environmental impacts. When we

say stakeholders, we mean all of them—the farmer or food workers at the production source, all the way up to the consumer who should be able to access a product's journey to make a more conscious choice. When it comes to transforming our food system, everyone plays an active role.

Making Trace accessible to all these actors is a daily challenge for the Fairfood team. Creating a data-sharing process that benefits and engages all actors in working towards quality data means exploring the offline value it brings as well. Intel on consumers' preferences may be easily gathered through market research, but this is a different story at the first mile. Can farmers, cooperatives, and local buyers, already overwhelmed by work, risks, and demands, truly benefit from extra insight into costs and responsibilities, or consumer trends and regulatory changes?

In this document, you can observe the unfolding of implementing full traceability in Uganda and Sierra Leone. Learn how to dodge the obstacles of introducing traceability in countries where poverty plagues rural populations and connectivity remains a distant dream. Fairfood remains confident that innovations can inclusively facilitate the onboarding of small-scale farmers into digital systems, but only if we avoid introducing new forms of exploitation. We invite you to reflect on the complexities of this journey with us.





The ability to access more markets and better prices depends on first-mile actors being able to respond to international market demands.



Introduction

Together with the **RECLAIM Sustainability!** consortium, led by Solidaridad and funded by the Dutch Ministry of Foreign Affairs, Fairfood works to foster Fair Value Distribution in international value chains. In practice, this means ensuring that farmers and workers receive a fair share of the value generated in the supply chain. Prices throughout the supply chain often do not cover the true cost of production – external costs, such as measures taken to tackle deforestation, reduce CO2 emissions, or to ensure farmers a living income are currently not calculated into the product price. Instead, these costs are borne by the weakest link in the chain and society at large. The value created in supply chains is currently disproportionately concentrated in the hands of a few (traders, processors, and retailers) and needs to be redistributed.

A sector can never be considered sustainable if farmers and workers at the beginning of the supply chain aren't able to make a decent living from the sales of their crop or their full-time job. If we are to achieve a fair distribution of value, whereby all actors in the chain benefit, we must first identify imbalances, inefficiencies, externalities, and pricing mechanisms, and introduce solutions to protect farmers' and workers' income while improving their bargaining position. This is where traceability comes in. In an increas-

ingly digital agri-food system, the ability to access more markets and better prices depends on turning first-mile actors into active players that can respond to international market demands. And to achieve that, you need to have the right mindset, tools, and literacy in place.

Trace, Fairfood's traceability platform, is one of the tools offered to EU importers, distributors and brands through the RECLAIM Sustainability! programme to increase transparency in their supply chains. As we move into the programme's final years, it's time to answer some critical questions:

- What is the **value** of traceability for farmers, cooperatives, local buyers, and traders **at the first mile** of our food system?
- Is Trace truly creating **benefits**, rather than adding extra **hurdles**?
- Is our technology generating **meaningful** use, or is it **just being used**?

Looking at two innovation project pilots in Sierra Leone and Uganda, this document highlights key learnings, obstacles, frustration points, and recommendations meant to inspire the adoption of digitally inclusive supply chains. The goal is to motivate both programme partners and

external organisations (or individuals) who may be interested in adopting a farmer-centric approach to traceability in countries with comparable profiles to Uganda and Sierra Leone.

From access to meaningful technology usage

The '[Inclusive Digital Design Toolkit: From access to meaningful technology usage](#)', developed by USAID, the Athena Infonomics and Genesis Analytics, shows the 5 'A's of Technology Access—availability, affordability, awareness, ability and agency. It brought us a long way, but it's time to pioneer a transformative sixth 'A'—Accrual of benefits. It's not just about connectivity, but about ensuring tangible benefits for all participants. Moving beyond mere access to meaningful technology usage requires a global acknowledgment that technology usage – and digital inclusion per se – should lead to meaningful offline improvements in various aspects of life, such as decent livelihoods, income generation, food security and resource management. This means that digital initiatives have to yield concrete, positive impacts for all individuals, irrespective of their backgrounds.



Harnessing digitalisation to improve livelihoods in Uganda and Sierra Leone

Although two agricultural powerhouses, Uganda and Sierra Leone grapple with high poverty rates. According to the [World Bank](#), 42.2% of the Ugandan population live below the \$2.15/day poverty line (2019), while Sierra Leone faces a 26.1% poverty rate (2018).

Agricultural dependency

Despite a decline in rural populations, they remain a majority—74% in Uganda (2022) and 56% in Sierra Leone (2022). The agricultural sector is essential for both nations, with [63% \(Uganda, 2021\)](#) and [43% \(Sierra Leone\)](#) of the population working in agriculture. This dependence is reflected in agriculture's contribution to the national GDP: [24.1% in Uganda \(2022\)](#) and a substantial [57.4% in Sierra Leone \(2021\)](#).

The high economic dependence on agriculture makes the sector a powerful player in poverty reduction in both Uganda and Sierra Leone. It also means that improving the income of farming households could lift a significant part of both populations out of poverty. Adding a pressing need to modernise agriculture in international trade to meet regulation to this, Fairfood and Solidaridad have embarked on two innovation pilots. The quest: digitise multiple coffee and cocoa value chains from farmer to consumer and provide public transparency on the prices received at farm level. The ambition: enable digital connectivity that benefits all stakeholders in the supply chain.

In Uganda, Solidaridad and Fairfood piloted two multi-year coffee projects. One involves a farmer-owned coffee exporter that works with 26 cooperatives spread across the mountains of southwestern Uganda; the second a coffee exporter representing over 6,000 farmers in the Masaka area, southern Uganda. The projects include full supply chain traceability and price verification. In one of the projects, we are also piloting a due diligence dashboard that maps the environmental and social impact of coffee sourcing.

In Sierra Leone, the innovation project covers five cocoa supply chains. Most of the farm-

ers involved are located in eastern Sierra Leone, close to the border with Liberia: a region known for cross-border cocoa sales (and smuggle). The pilot, supported by Solidaridad West Africa, included the introduction of Fairfood's Mobile Field app in combination with NFC-enabled Farmer Cards to facilitate traceability at farm-level, transaction recording and payment verification.



Connectivity challenges

Modernisation of the agricultural sector to combat poverty and support rural communities faces a major hurdle—rural connectivity. Sierra Leone's internet penetration was a mere [2.5% in 2010, rising to 15.9% in 2019](#), with rural areas lagging significantly at 4.5% compared to urban areas at 30.4% (ITU, 2019). A lack of [infrastructure](#) and connectivity has limited both countries' ability to participate in the global economy and hindered its progress in areas such as education, healthcare and governance. Digitalisation, or using digital technologies to transform – and digitise – traditional practices, becomes particularly relevant in this context. Full traceability relies heavily on streamlining digitised documents to modernise the agricultural value chain. Improved connectivity allows farmers and stakeholders in remote rural areas to actively engage in the traceability process, access real-time data, and contribute to the transparency and efficiency of the overall supply chain. Thus, addressing connectivity challenges is not only essential to economic development, but also directly influences the success and impact of the traceability initiative to enhance the livelihoods of farmers in Uganda and Sierra Leone.

As we implemented innovative traceability solutions in Ugandan and Sierra Leonean rural areas, our focus shifted to understanding the data needs, value, and the digital divide within these value chains. Below, we explore how a meaningful use of technology can unlock offline benefits for farmers and workers already struggling with low prices, inflation boosted by geopolitical conflicts, and climate change. The steps include identifying benefits, mainly through assessing awareness of the benefits offered by traceability and transparency, and by addressing benefit inequalities: checking who can access these benefits and who can not. This approach ensures that everyone in the chain, beginning with farmers at the grass-roots level, is taken into account and positively gains from the use of technology.

Let's examine how these considerations played out in Uganda and Sierra Leone.



How can meaningful use
of technology unlock
offline benefits for farmers
and workers?



Uganda: Telling a coffee sustainability story

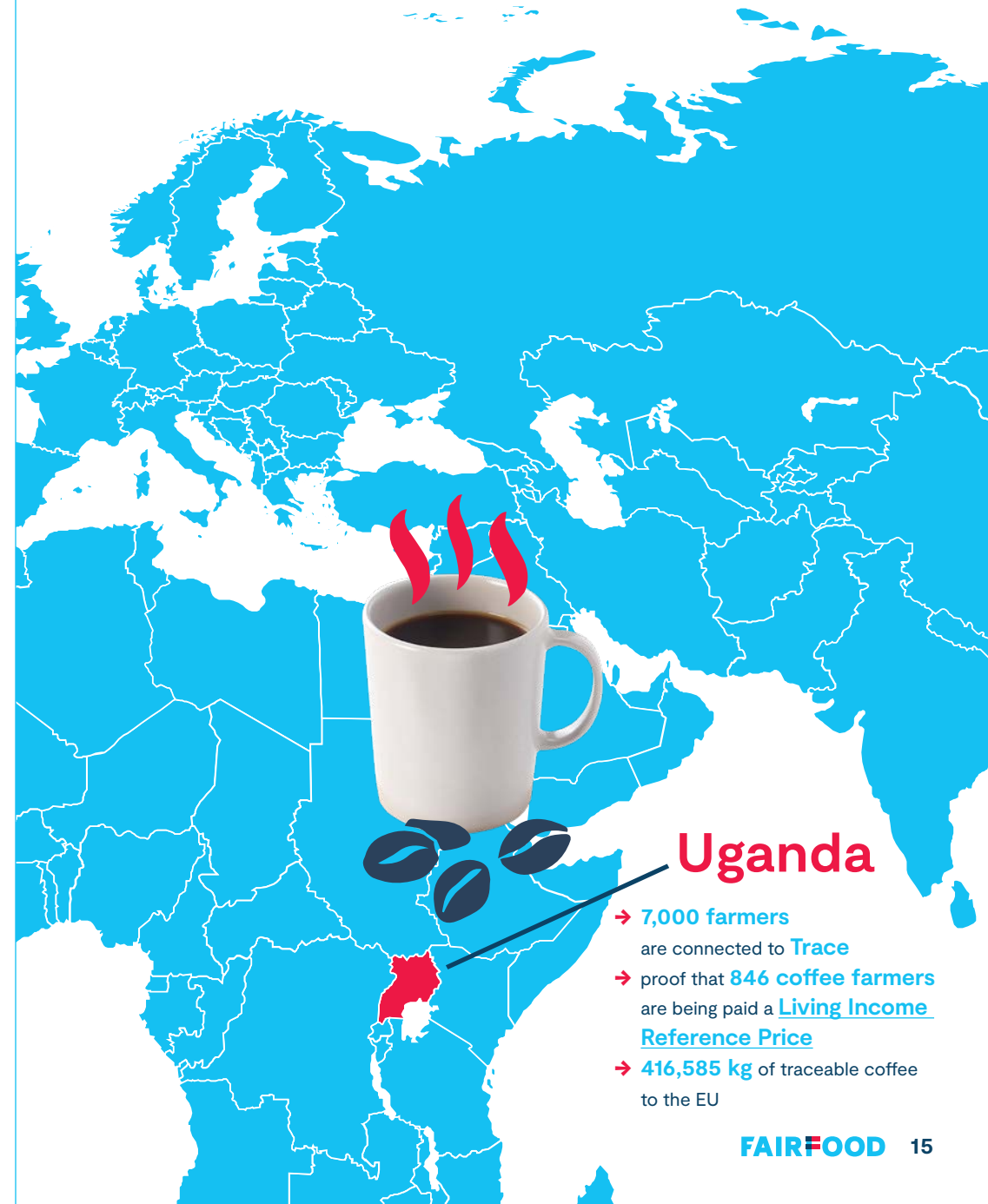
The [Ugandan](#) pilots set out to digitalise two coffee supply chains. One of them included over 800 farmers, 2 farmer cooperatives, an exporter, a trader, a roaster and a coffee brand. The second included over 6,000 farmers, 16 farmer cooperatives, a union of cooperatives, an exporter, and a trader.

First off, it was essential to understand the dynamics of the tracing process and the factors that lead to success. We began by mapping and tracing both coffee supply chains bottom-up, from the union of cooperatives onwards. The unions have been a key ally in securing traceability all the way to the farmer and in obtaining proof of farmers being paid. Also, in both supply chains, unions maintain long-term relationships with the trader and/or the coffee brand. This translates into relationships of trust, direct communication channels, and a track record of collaborating in sustainability efforts. Another important characteristic is the data savviness that the unions of cooperatives and exporters possess, as well as their long-standing commitment to traceability.

Being data savvy – which is different from being technology savvy – means that unions of cooperatives and local exporters recognise the value in harnessing data to coffee farmers. In light of new regulations, they play a crucial role in supporting the commitments of their business partners as data providers. This role is fully understood by the unions and local exporters involved in the Ugandan pilot. Also, like Fairfood and Solidaridad, they see an opportunity for creating value through data sharing. This allowed for a strong partnership to form between the two NGOs and the supply chain actors, and for harnessing the true value of data.

Digitalisation structure: from data provision to unlocking the power of data

The digitalisation structure of the Ugandan pilots includes various components. Cooperative unions establish connections between grassroot organisations and farmers, while Fairfood and Solidaridad establish connections with the international market. Unions and exporters are equipped with the traceability tool, Trace, and receive support in the digitisation of farmer transaction data. The digitised records of coffee farmers become visible via Trace, where they are translated into verified sustainability claims, such as proof of 'fair' payment and organic or fairtrade coffee certifications. This way, a sustainable coffee story can be told, verified and shared with international buyers.



Uganda

- 7,000 farmers are connected to [Trace](#)
- proof that 846 coffee farmers are being paid a [Living Income Reference Price](#)
- 416,585 kg of traceable coffee to the EU

Exploring cooperative impact on coffee farmers

The majority of farmers involved in the pilots use a phone to manage their coffee business. However, they do not need to interact directly with the traceability tool or rely on the unions or exporters to receive any benefits. We asked over 4,000 farmers about their access to reliable market information, their ability to financially manage their coffee business, and their relationship with the cooperative. The results revealed that most farmers know about the financial situation of their coffee business and benefit from a trusted cooperative membership – a situation that lays a solid foundation to assume that the benefits of the cooperative will reach its coffee growing members.

Milestones so far:

- Almost 7,000 farmers are connected to the traceability tool, Trace
- Solid and transparent proof now exists that 846 coffee farmers are being paid a Living Income Reference Price by the Dutch coffee brand Fairtrade Original, which uses Fairfood's tool Trace to deliver this proof to the consumer's doorstep
- 416,585 kg of traceable coffee has already been shipped to Europe

A Living Income Reference Price (LIRP) is a Fairtrade International initiative to ensure that farmers are paid what they need to achieve a living income. In practice, calculations based on specific contexts define a farm gate price that is required to realise a basic but decent living for an average farming household. The LIRP is calculated based on actual household needs and supplements the farm gate price with additional payments. By adopting a farm gate price that covers the full production costs and secures a decent living for the farming households, farmers are effectively provided with a type of safety net that prevents farm losses and enables a dignified standard of living.

Connectivity ensures business management, but falls short when it comes to addressing poverty

In Uganda, 84% of farmers keep records of their coffee sales and know how to manage their coffee business in an informed manner (e.g., calculating profit/loss). Coffee farmers who are part of a cooperative group say they have access to reliable information on market prices, and maintain a trusting relationship with their main coffee buyer. The majority (94%) also has access to education/training on agricultural markets, business management or similar topics. Still, proficiency in business management, while valuable, insufficiently safeguards farmers, especially since an average of 63% of household incomes come from coffee. In 2022, 6% of coffee-growing households in our pilots faced a critical issue— 375 coffee producers experienced food insecurity, meaning they had insufficient access to nutritious food on a daily basis. The implementation of price mechanisms that at least cover production costs and ensure a decent standard of living for farming households, is essential to introduce truly sustainable practices to business management, and ensure the future of value chains.

The future of coffee depends on price mechanisms that ensure a decent standard of living for farming households.





Farmers expect
to receive a bonus
for the use of their data.



Sierra Leone: Daring to trace cocoa

In contrast to the Ugandan coffee pilot, where farmers were organised in trusted cooperatives that already had traceability practices in place, the cocoa trail between farmers and buying agents in the pilot in Sierra Leone was a black box.

The quest to trace five different cocoa supply chains in Sierra Leone yielded important learnings about the challenging dynamics of the local business context. A key ally in helping to introduce traceability was Solidaridad West Africa: a civil society actor and not an active supply chain partner. Solidaridad engaged the local exporters and collaborated with Fairfood to organise the first-ever roundtable of competing local exporters. This unprecedented meeting established a mindset of willingness to attempt full traceability from the farmer to the exporter and beyond.

But although the willingness was there, there was no process to properly trace cocoa in place yet. Usually, buying agents are asked to collect a certain number of kilograms of cocoa, which they will buy from several farmers – surveys suggest an average of 60 – before handing it over to the exporters. Moreover, smuggling cocoa from Liberia seems to be common practice, adding to the challenge of proving the cocoa truly comes from and under which conditions it was produced. All in all, using transaction records to obtain evidence required significant manpower and still left us with uncertainties about the cocoa's origin.

In a system with almost no infrastructure for traceability in place, a different intervention was required. A system to record transactions between farmers and buying agents was therefore piloted with a smaller farmers sample within the cocoa supply chains. **This system introduced individual so-called Farmer Cards and a Mobile Field App for buying agents.** This allowed for cocoa transactions to be digitally recorded in the mobile field app, in the same way that you might use a credit card. **More on that below:**



Sierra Leone

Milestones so far:

- From 526 farmers in 2021, to **2,176 farmers** connected to **Trace** in 2022
- **25,000kg of traceable cocoa** sold to a Dutch trader in 2021
- **5** different supply chains
 - 4** different exporters
 - 2** different traders



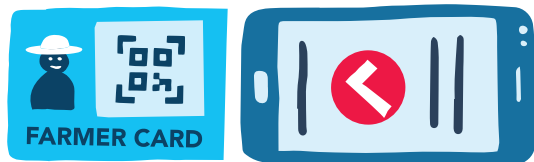
Navigating education and tech challenges

In Sierra Leone, the typical cocoa farmer is a 43-year-old male (75%) who cultivates an average of 2.55 hectares of cocoa land. A notable gender disparity pervades various aspects: from farm sizes (2.76 ha for male farmers compared to an average of 1.89 ha for female farmers) to formal education. Among male farmers, 46% received no formal education, and this number jumps to 84% for their female counterparts. Buying agents fall within the 27 to 35 age range, boasting high education levels that facilitate technology receptivity. Smartphone ownership further amplifies gender disparities: among the quarter of farmers who own smartphones, a mere 3% are female.

Building blocks for digital inclusion: Farmer Cards and Mobile Field App Pilot

This pilot saw all types of stakeholders interacting with the traceability system, Trace: farmers, buying agents, exporters and traders. Buying agents had to use a smartphone - which they already owned - and have internet access at a certain moment of the week to upload data on the cocoa transactions. Buying agents were confirmed to almost always have internet access. When it comes to the farmers, less than a quarter owned a smartphone. **But farmers do not need a phone in the Trace project, as they use Farmer Cards.**

Buying agents interact with Trace through the Mobile Field app, which enables them to scan the Farmer Cards and register transactions to the system, including information on the number of kilograms bought and prices paid. For future batches, the goal is to trace certifications and claims, as is done in Uganda.



Farmers interact with Trace through Fairfood's Farmer Cards. These cards use Near-Field-Communication (NFC) and can be scanned offline by buying agents using the Mobile Field App. This means that a smartphone is needed to register the cocoa buying transactions with the farmers in the system. After that, farmers can access their transaction records in the traceability system, Trace, by sending an SMS.



A modular
solution to
digital
traceability.



Traceability as a system won't protect value chains in the long run. Instead, **build connections and nurture relationships** for a sustainable future.

Findings: traceability opportunities and hurdles for every supply chain actor

We asked the different supply chain actors about their expectations and challenges of adopting traceability. Below you will find an overview of the results before delving deeper into our findings in the next chapter.

opportunities

Price incentives

For farmers, price incentives are the most desired outcome of adopting traceability. They expect to receive a bonus or price premium by consenting to the use of some of their data in the Trace project.

Additional information

For farmers, price incentives are the most desired outcome of adopting traceability. They expect to receive a bonus or price premium by consenting to the use of some of their data in the Trace project.

'It's beneficial as I will not be cheated by my agent.'

Fraud prevention and trust-building

Proof of business transactions will allow farmers to claim premiums at the end of the season.

A 100% traceable product

Coffee that is traced in the Trace platform and sold in the EU will soon connect the final product back to the farmer

Sustainability claims lead to funded projects

"When the client clearly sees the added value of traceability and specific sustainability claims, they begin to invest more. It leads to funded projects, and we have returned to the grassroots."

EU-compliant data through Trace

"It will be a great success if the data that we share through Trace can be recognised by EU customs, and when our systems are accepted by the customs as complying with the regulations."

Improving business management

Buying agents expect traceability data to offer them improved business insights, leading to better decision-making, such as assessing profit and loss

Creating value

Traceability is expected to generate an additional revenue stream for buying agents

Claiming quality

"Trace innovation allows us to gather all the necessary information in cocoa sourcing."

Traceability from farm to fork
Farmer Cards are seen as crucial to ensuring 100% traceability, and reducing paperwork

Greater interaction with farmers and competitors

Through data, agreements and new models can be designed

Price transparency among supply chain actors

Expectations that Trace will transfer information from farmers to exporters and then to their buyers and traders

Ensure traceability to buyers & consumers support in marketing products

"The pilot dares to trace our cocoa to the origin."

farmers



Side-selling of cocoa
The side-selling of cocoa through cross-border sales poses a challenge to full traceability in Sierra Leone. Findings show that fostering a trusting relationship between farmers and buying agents is a way to tackle the challenge of tracking the origin of cocoa and its producers.

Lack of incentives to participate in traceability pilots

Formal agreements to pay traceability premiums in purchasing contracts are a way to tackle this challenge.

Increasing data demands and tooling

"There are a lot of projects with duplicative data demands, asking us for another app and giving yet another survey..."

coops unions exporters



Traceability is a big investment

"We are investing a lot in traceability, but the return is not there yet... The market is not ready to pay for it."

buying agents



Incentives and training are needed to motivate buying agents

1. High illiteracy of farmers
2. Long distances to reach farmers
3. Limited electricity to support tooling

Side selling of cocoa

"Most farmers are used to side sales, it will not be easy for them"

Cash liquidity and payment practices

"Buying agents don't have sufficient cash to pay farmers at the time of buying."

Extra time and resources needed to reach and trace remote farmers: extra work!

Efforts to engage buying agents in system transparency

"We expose buying agents to the concept of transparency - it is important to find ways to talk to them so they use the system."

Sustainability of the Trace project

"We expect this project to continue after the pilot, but we don't know how much the software will cost."

exporters



challenges

Traceability Premiums and a Living Income Reference Price (LIRP) are already paid to Ugandan farmers, which can now be verified through Trace and translated into claims made by coffee companies. Traceability, therefore, does not lead to immediate extra gains for farmers, but supports the maintenance of existing benefits. In Sierra Leone, the idea of having premiums and incentives is the main motivation for farmers.

Recommendations: translating traceability efforts into actual value

It's time to go deeper into our findings. Successful traceability implementation relies heavily on the individual and combined effort of farmers, cooperatives and first-mile buyers. This means that agri-food companies located downstream in the supply chain must understand and respond to the requirements of these key players. This section offers

recommendations for value creation, with a specific focus on the importance of collaboration, shared investment and long-term commitment among supply chain actors. Below, three recommendations are highlighted, based on what farmers, cooperatives, buying agents, and exporters pointed out to us.

1. Adopt a farmer-centric approach to traceability

From farmers in Sierra Leone adopting card technologies for the first time, to Ugandan cooperatives already experienced with certification schemes: everybody agrees on the fact that traceability is necessary. However, the absence of adequate infrastructure to realise traceability is slowing down the integration process. This is where additional support can have a significant impact. In the pilot projects discussed in this report, Solidaridad and Fairfood collaborated to provide necessary tooling and training to streamline first-mile traceability. However, to ensure long-term sustainability, several factors are important to note:

Support through incentives

- Premiums or direct payments should be included in traceability efforts, to fairly remunerate farmers for sharing their data. This approach promotes a collaborative and mutually beneficial data-sharing initiative, fostering active farmer participation and trust-based relationships.
- Buying agents - when playing an active role in the supply chain - request incentives to collect traceability data, including internet stipends or bonuses. Their motivation and engagement is crucial to ensure the quality of the data they collect and share.



- In one of the Ugandan pilots, the union of cooperatives pays farmers a traceability premium, informed by a precondition of traceability mandated by the contractual agreement with the buyer. In this case, the traceability project did not guarantee additional payments to farmers, but was used to maintain current premium payments by providing traceability evidence. Contractual purchasing agreements in combination with a farmer verification system provide an example of how to establish support through incentives.

Define value for every supply chain actor

- For cooperatives and exporters to support the project, investing in traceability technology should reduce the workload, improve business management and be cost-effective. These criteria for traceability investment mean that the technology should not simply make current processes more efficient, but should also contribute to sustained improvements and long-term viability. Hence, incorporating an inclusive design phase that clearly outlines the business case of traceability for its different users is strongly recommended.

Share financial responsibilities

- The financial responsibility of digitalising infrastructure and processes should be shared among supply chain actors, as well as its profits. Digitalisation often requires significant financial investment, with costs extending beyond the initial investment. Making these costs the responsibility of one single supply chain actor can jeopardise and limit the scalability of the digitalisation project, restricting its impact and potential benefits for the entire supply chain. Accordingly, it is recommended to explore a cost-sharing approach to make digital technologies accessible to all supply chain actors, to reach a collective vision and establish a sustainable funding model.

Make long-term commitments

- Making long-term commitments is essential when it comes to initiating traceability and data-sharing processes, as they require considerable time and financial resources from various stakeholders. For traceability initiatives to be successful in terms of the level of actors' engagement and the quality of shared data, their design and management must ensure their sustainability over time. To achieve this, it is recommended to establish clear long-term contracts that outline data management roles and specify outcomes for data usage and data benefits. This ensures that traceability initiatives have the potential to last beyond the initial phase.
- In established partnerships or business relations that already include a high level of trust and fair practices, such as found in the Ugandan pilot, farmers may not experience instant value addition. However, the integration of traceability contributes to a long-term continuation of fairer practices, which ensures lasting benefits over time.

Farmers should be equipped to comprehend the implications of data sharing, and actively engage in the data-sharing process.



2. Address the digital divide

There are challenges that prevent buyers from believing in the potential of traceability, such as demonstrated in Sierra Leone by the side-selling of cocoa. Farmers sell cocoa to the highest bidder, making it difficult to collect data on quality or demand, and even harder to verify production standards. However, a solution to these challenges can be realised in the short term by building stronger relationships with farmers. Here's how technology helps.

Build digital capacity at farm level

- Before implementing traceability efforts, it is essential to understand the digital landscape at the farm level. This includes assessing factors such as farmers' access to technology, digital literacy levels and any disparities between different groups of farmers. A gender perspective should always be included to address possible gender disparities in digital access. This allows for the implementation of strategies and considerations that ensure equitable access, usage and benefits of traceability technologies.
- Improved data literacy at farm level must begin with a transparent and comprehensive consent phase, ensuring that data providers are well-informed about which data is collected, why it is collected, who will access it and what value it generates. By prioritising data literacy from the start, farmers are better equipped to comprehend the implications of data sharing, make informed decisions, and actively engage in the data-sharing process. This approach sets the stage for a more informed and empowered data-sharing relationship.

Design inclusive technologies

- To make traceability technologies a success, the meticulous consideration of diverse technological proficiencies and existing infrastructure constraints, such as limited internet connectivity or smartphone access, is essential. The promotion of inclusivity is made possible by incorporating user-friendly interfaces, multilingual options and accessibility features. In a Sierra Leone pilot, the introduction of Farmer Cards played a pivotal role in empowering farmers to actively engage in the data-sharing process by providing them with a sense of ownership and a distinct role to play within the traceability system. Additionally, the Farmer Cards were received as a means to build trust between farmers and buying agents, and mitigate side-selling by cultivating a sense of commitment to a specific buyer.

'The buyer wants to see what the farmer says, and the Farmer Card enables this grassroots visibility. It facilitates showing to project funders the impact a given project has on the farmer.' ~ From a buying agent in the survey.

3. Communicate impact for compliance and market advantage



First-mile actors need to communicate impact to demonstrate compliance and maintain a competitive position in the market. However, this interest – and responsibility – is not exclusive to first mile actors. Businesses at the other end of the supply chain also require regulation-compliant suppliers and seek data savvy supply chains to, for example, improve business management or communicate the product's sustainability story to consumers and other relevant parties.

Adopt a collective approach to compliance

- Ensuring compliance with EU regulations is a top priority for first mile actors, as emphasised by the Union of Cooperatives. This commitment extends to the effective communication of both EU compliance and the sustainability impact of products. Consequently, there is a strong desire for first mile actors to explore opportunities beyond the initial project pilots. However, achieving this goal requires collaboration among supply chain partners, so that EU regulatory requirements can be effectively navigated and the risk of non-compliance is minimised.
- In Uganda, one of the pilots evolved to include the development of an innovative due diligence dashboard. This initiative arose from the collective desire of cooperatives, exporters, and traders to provide their buyers with transparent and verifiable information regarding the social and environmental impact of their products. Although still a work in progress, external programme auditors have received encouraging feedback. This endeavour exemplifies the shared commitment to transparency, compliance, and sustainability from all partners, wherein each party understands their role and accepts shared accountability.

'Be the platform where clients/consumers can see the impact and then support the farmers.' ~ From an exporter in the survey.

Align sustainability claims with market needs

- First mile actors want to invest time and resources to prove and communicate sustainability claims that the market is willing to invest in. That involves developing a strategic approach that considers consumer preferences, emerging trends, and regulatory requirements. Some approaches that can assist with this development include: conducting market research to understand consumer interests, staying abreast of new regulations and their requirements, or setting regular updates with sustainability experts.
- Trace offers brands a Storytelling Interface – a platform for business partners to give their clients an overview of sustainability efforts backed by evidence. As new regulations and consumer trends emerge, certifications alone cannot ensure the checking of all boxes: the interface allows companies to go the extra mile and show evidence on single product transactions, origin and payments. The interface is adaptable to changing consumer trends by allowing the sharing of different sustainability efforts and to redesign the interface in line with these trends. One of the Ugandan pilots showcases proof of payment of a Living Income Reference Price, along with traditional certifications, such as Organic or Fairtrade. [Access the interface here for more information.](#)

'We have a lot of data, but we need help to understand it. Not just for us, but also for the cooperatives and the farmers, how can they use the data?' ~ From an exporter in the survey.





First mile actors are willing to invest time to prove sustainability claims that the market is willing to invest in.

Conclusion: the pivotal downstream dynamics of value transformation

On the journey to improve agricultural livelihoods through digitalisation, the profound impact of strategic collaboration becomes evident. From Sierra Leone to Ugandan cooperatives, the resonance with traceability and transparency efforts is clear, but challenges still persist. Addressing disparities – think of access to market, to data,

and of course, to better prices – often means adopting farmer-centric solutions. Only then does converting traceability efforts into genuine value for all supply chain actors become possible. This requires the active and responsible participation of downstream agri-food companies for long-term support of farmers.

Shared vision for digitalisation

The call for traceability and transparency is unanimous throughout the supply chain, which underlines the need for collaborative efforts to overcome challenges posed by investment imbalances and inadequate infrastructure. The adoption of traceability is not merely a technological transition but the manifestation of a shared commitment to sustainability, shared investments and shared profits that must be reflected in procurement practices.

Incentives as catalysts

Incentives emerge as powerful catalysts, driving active farmer participation and trust in data-sharing initiatives. From farmer premiums to engagement with buying agents – what we call a data premium – these incentives lay the foundation for a symbiotic relationship within the supply chain.

Long-term sustainability

The vision extends beyond immediate gains, emphasising the need for traceability investments that contribute to sustained improvements. An inclusive design phase articulates the multifaceted business case, ensuring longevity and the continuation of benefits.

Building trust equals building capacity at the grassroots

Overcoming challenges such as side-selling requires more than technological solutions; it asks for the cultivation of robust relationships at the farm level. Addressing the digital divide, prioritising data literacy, and employing inclusive technology, such as Farmer Cards, become essential to building trust.

Communication for compliance and competitiveness

Effectively communicating impact is paramount, not just for compliance, but to maintain a competitive edge. A collective approach towards EU regulations, as demonstrated in the development of a due diligence dashboard, reflects a shared commitment to transparency and sustainability.

Adaptability to market needs

Aligning sustainability claims with market preferences emerges as a strategic imperative. The Storytelling Interface offers a dynamic tool that allows businesses to showcase evidence of sustainability efforts aligned with evolving trends and regulatory mandates. In conclusion, the success of traceability hinges on collective action, shared investments, an unwavering commitment to transparency, and a commitment to long-term sustainability. As the industry heads toward a more transparent and ethical future, these recommendations provide a roadmap for stakeholders to nurture traceability initiatives that truly deliver value across the entire supply chain.

Work with us

Want to partner up?

Get in touch:

John Cherek, Fairfood Programme Manager

john@fairfood.org

[Learn about our yearly progress](#)





Published by Fairfood

Author: Mariana Broitman and Isa Miralles

Contact: mariana@fairfood.org; isa@fairfood.org

Citation: Broitman, M., & Miralles, I., (2023). Lessons from the Field: a collaborative approach to monetising the value of supply chain transparency.

Edited by: Channa Brunt

Graphic design: Buro RuSt

fairfood.org